Colour Television **Chassis**

LC4.9E

AA

For manual LGE plasma panel see: 3122 785 15590

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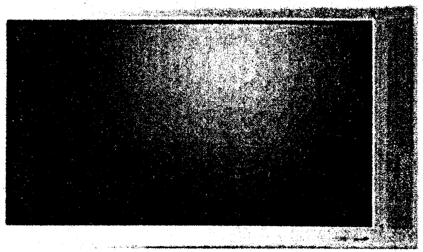

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Service Manual

Contents **Page**
1. Technical Specifications, Connections, and Chassis Overview 2
2. Safety Instructions, Warnings, and Notes 5
3. Directions for Use 7
4. Mechanical Instructions 8
5. Service Modes, Error Codes, and Fault Finding 15
6. *Block Diagrams, Testpoint Overviews, and Waveforms*
   Wiring Diagram 25
   Block Diagram Video 26
   Block Diagram Audio 27
   Testpoint Overview SSB (Top Side) 28
   I2C IC Overview 29
   Supply Voltage Overview 30
7. *Circuit Diagrams and PWB Layouts* *Diagram* *PWB*
   PDP FHP Supply: Filter Standby (A2)31 36-41
   PDP FHP Supply: Protection (A3)32 36-41
   PDP FHP Supply: Pre Conditioner (A5)33 36-41
   PDP FHP Supply: LLC Supply (A6)34 36-41
   PDP FHP Supply: AUX Supply (A7)35 36-41
   SSB: Tuner and VIF (B1)42 65-74
   SSB: Histogram and Hercules (B2) 43 65-74
   SSB: Sync Interface (B3) 44 65-74
   SSB: Audio Delay line (Reserved) (B4) 45 65-74
   SSB: Audio Processing (B5) 46 65-74
   SSB: DC-DC Converter (B6) 47 65-74
   SSB: Diversity Tables B1-B6 (B1-6) 48
   SSB: Scaler (B7) 49 65-74
   SSB: Scaler Supply (B8) 50 65-74
   SSB: Scaler Interface (B9) 51 65-74
   SSB: SDRAM (B10) 52 65-74
   SSB: Flash / Control (B11) 53 65-74
   SSB: HDMI (N.A.) (B12) 54 65-74
   SSB: MUX Sync Interface (B13) 55 65-74

Contents **Page**
   SSB: Digital I/O (B14) 56 65-74
   SSB: Analog I/O (B15) 57 65-74
   SSB: Top Connectors (B16) 58 65-74
   SSB: Side Connectors (B17) 59 65-74
   SSB: ADC (B18) 60 65-74
   SSB: Columbus (B19) 61 65-74
   SSB: EPLD (B20) 62 65-74
   SSB: EPLD (B21) 63 65-74
   SSB: Diversity Tables B9-B21 (B9-21) 64
   PDP Audio Amplifier Panel (C) 75 76
   Side I/O Panel (D) 77 76
   Control Board (E) 79 80
   LED Panel (J) 81 82
8. Alignments 83
9. Circuit Descriptions, Abbreviation List, and IC Data Sheets 87
   Abbreviation List 95
   IC Data Sheets 98
10. Spare Parts List 102
11. Revision List 110

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PHILIPS

1. Technical Specifications, Connections, and Chassis Overview

Index of this chapter:

1.1 Technical Specifications
1.2 Connection Overview
1.3 Chassis Overview

Notes:

- Figures can deviate due to the different set executions.
- Specifications are indicative (subject to change).

1.1 Technical Specifications

1.1.1 Vision

Display type	: Plasma
Screen size	: 42" (107 cm), 16:9
Screen size	: 50" (127 cm), 16:9
Resolution (HxV pixels)	: 42 inch: 852 x 480 : 50 inch: 1366 x 768
Contrast ratio	:
- 42PF5320/10	: 10,000:1
- 42PF7320/10	: 13,000:1
- 50PF7320/10	: 10,000:1
Light output (cd/m^2)	: 1500
Viewing angle (HxV degrees)	: 160x160
Tuning system	: PLL
TV Colour systems	: PAL B/G, D/K, I : SECAM B/G, D/K, L/L'
Video playback	: PAL B/G; SECAM L/L' : NTSC M/N 3.58, 4.43
Supported computer formats	: VGA (640x480) : VGA (720x400) : VGA (720x480) : MAC (640x480) : MAC (832x624) : SVGA (800x600) : XVGA (1024x768) : WXGA (1280x768) : WXGA (1280x960) : WXGA (1280x1024)
Supported video formats	: 640x480i - 1fH : 720x576i - 1fH : 640x480p - 2fH : 720x576p - 2fH : 852x480p - 2fH : 1920x1080i - 2fH
Presets/channels	: 100 presets
Tuner bands	: VHF : UHF : S-band : Hyper-band

1.1.2 Sound

Sound systems	: FM-mono : FM-stereo B/G : NICAM B/G, D/K, I, L : AV Stereo
Maximum power (W_{RMS})	: 2 x 15

1.1.3 Miscellaneous

Power supply:	
- Mains voltage (V_{AC})	: 220 - 240
- Mains frequency (Hz)	: 50 / 60
Ambient conditions:	
- Temperature range (°C)	: +5 to +40
- Maximum humidity	: 90% R.H.
Power consumption	
- Normal operation (W)	: ≈ 450
- Stand-by (W)	: < 2
Dimensions (WxHxD cm)	: 42 inch: 124x68x10.4 : 50 in.:141.5x78x10.4
Weight (kg)	: 42 inch: 42 : 50 inch: 50

1.2 Connection Overview

Note: The following connector colour abbreviations are used (acc. to DIN/IEC 757): Bk= Black, Bu= Blue, Gn= Green, Gy= Grey, Rd= Red, Wh= White, and Ye= Yellow.

1.2.1 Side I/O connections

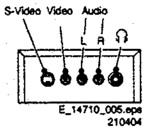

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Figure 1-1 Side I/O connections

S-Video (Hosiden): Video Y/C - In

1	- Ground Y	Gnd	⏚
2	- Ground C	Gnd	⏚
3	- Video Y	1 V_{PP} / 75 ohm	⊕
4	- Video C	0.3 V_{PP} / 75 ohm	⊕

Cinch: Video CVBS - In, Audio - In

Ye	- Video CVBS	1 V_{PP} / 75 ohm	⊕◎
Wh	- Audio L	0.5 V_{RMS} / 10 kohm	⊕◎
Rd	- Audio R	0.5 V_{RMS} / 10 kohm	⊕◎

Mini Jack: Audio Head phone - Out

Bk	- Head phone	32 - 600 ohm / 10 mW	◎/Ω

1.2.2 Rear Connections

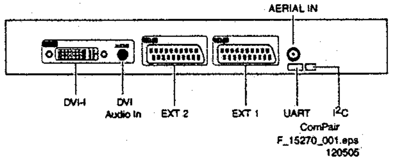

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Figure 1-2 Rear I/O

Aerial - In

-	- IEC-type (EU)	Coax, 75 ohm	⫪

Mini Jack: Audio - In

1	- Ground	Gnd	⏚
2	- Audio L	0.5 V_{RMS} / 10 kohm	⊕
3	- Audio R	0.5 V_{RMS} / 10 kohm	⊕

Service connector (ComPair)

1	- SDA-S	I^{2}C Data (0 - 5 V)	⊕○→
2	- SCL-S	I^{2}C Clock (0 - 5 V)	⊕
3	- Ground	Gnd	⏚

Service connector (UART)

1	- UART_TX	Transmit	○→
2	- Ground	Gnd	⏚
3	- UART_RX	Receive	⊕

DVI-I: Digital/Analogue Video - In

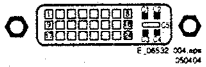

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Figure 1-3 DVI-I connector

1	- D2-		⊕
2	- D2+		⊕
3	- Shield	Gnd	⏚
4	- D4-		⊕
5	- D4+		⊕
6	- DDC_SCL	DDC clock	○→
7	- DDC_SDA	DDC data	⊕○→
8	- V-sync	0 - 5 V	⊕
9	- D1-		⊕
10	- D1+		⊕
11	- Shield	Gnd	⏚
12	- D3-		⊕
13	- D3+		⊕
14	- +5V		⊕
15	- Ground	Gnd	⏚
16	- HPD	Hot Plug Detect	⊕
17	- D0-		⊕
18	- D0+		⊕
19	- Shield	Gnd	⏚
20	- D5-		⊕
21	- D5+		⊕
22	- Shield	Gnd	⏚
23	- CLK+		⊕
24	- CLK-		⊕
C1	- Video Red	0.7 V_{PP} / 75 ohm	⊕
C2	- Video Green	0.7 V_{PP} / 75 ohm	⊕
C3	- Video Blue	0.7 V_{PP} / 75 ohm	⊕
C4	- H-sync	0 - 5 V	⊕
C5	- Ground	Gnd	⏚

EXT1: Video RGB - In, CVBS - In/Out, Audio - In/Out

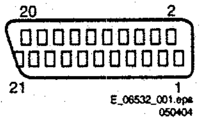

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Figure 1-4 SCART connector

1	- Audio R	0.5 V_{RMS} / 1 kohm	○→
2	- Audio R	0.5 V_{RMS} / 10 kohm	⊕
3	- Audio L	0.5 V_{RMS} / 1 kohm	○→
4	- Ground Audio	Gnd	⏚
5	- Ground Blue	Gnd	⏚
6	- Audio L	0.5 V_{RMS} / 10 kohm	⊕
7	- Video Blue	0.7 V_{PP} / 75 ohm	⊕
8	- Function Select	0 - 2 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	⊕
9	- Ground Green	Gnd	⏚
10	- n.c.		
11	- Video Green	0.7 V_{PP} / 75 ohm	⊕
12	- n.c.		
13	- Ground Red	Gnd	⏚
14	- Ground	Gnd	⏚
15	- Video Red	0.7 V_{PP} / 75 ohm	⊕
16	- Status/FBL	0 - 0.4 V: INT 1 - 3 V: EXT / 75 ohm	⊕
17	- Ground Video	Gnd	⏚
18	- Ground FBL	Gnd	⏚
19	- Video Terr. CVBS	1 V_{PP} / 75 ohm	○→
20	- Video CVBS/Y	1 V_{PP} / 75 ohm	⊕
21	- Shield	Gnd	⏚

EXT2: Video Y/C - in, CVBS - In/Out, Audio - In/Out

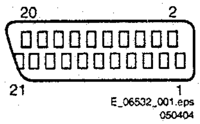

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Figure 1-5 SCART connector

1	- Audio R	0.5 V_{RMS} / 1 kohm	○→
2	- Audio R	0.5 V_{RMS} / 10 kohm	⊕
3	- Audio L	0.5 V_{RMS} / 1 kohm	○→
4	- Ground Audio	Gnd	⏚
5	- Ground Blue	Gnd	⏚
6	- Audio L	0.5 V_{RMS} / 10 kohm	⊕
7	- n.c.		
8	- Function Select	0 - 2 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	⊕
9	- Ground Green	Gnd	⏚
10	- n.c.		
11	- n.c.		
12	- n.c.		
13	- Ground Red	Gnd	⏚
14	- Ground	Gnd	⏚
15	- YC/C - in	0.7 V_{PP} / 75 ohm	⊕
16	- n.c.		
17	- Ground Video	Gnd	⏚
18	- Ground	Gnd	⏚
19	- Video Mon. CVBS	1 V_{PP} / 75 ohm	○→
20	- YC/Y - in	0.7 V_{PP} / 75 ohm	⊕
21	- Shield	Gnd	⏚

4. Mechanical Instructions

Index of this chapter:

4.1 Cable Dressing
4.2 Service Positions
4.3 Assy/Panel Removal
4.4 Set Re-assembly

Notes:

- Figures below can deviate slightly from the actual situation, due to the different set executions.
- Follow the disassembling instructions in described order.

4.1 Cable Dressing

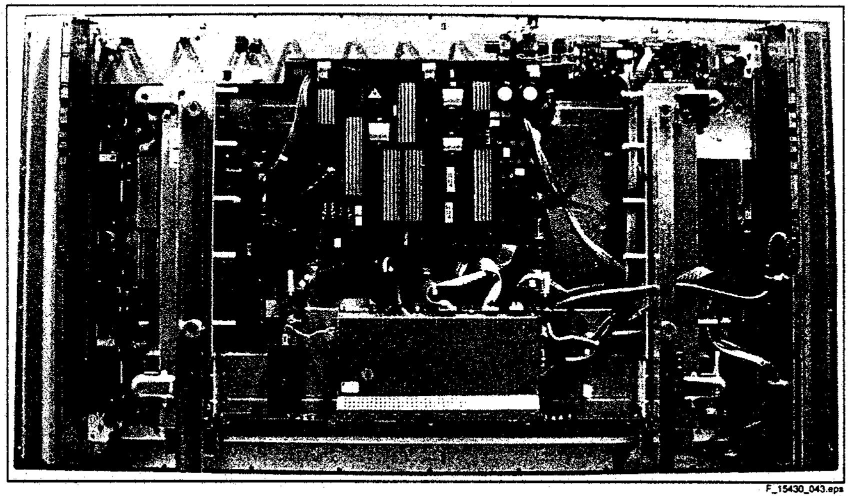

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Figure 4-1 Cable dressing

4.2 Service Positions

For easy servicing of this set, there are a few possibilities created:

- The buffers from the packaging (see figure "Rear cover").
- Foam bars (created for service).
- Aluminium service stands (created for Service).

4.2.1 Foam Bars

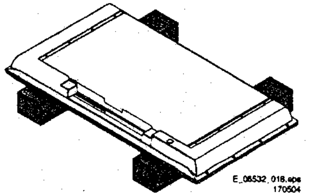

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Figure 4-2 Foam bars

The foam bars (order code 3122 785 90580 for two pieces) can be used for all types and sizes of Flat TVs. By laying the TV face down on the (ESD protective) foam bars, a stable situation is created to perform measurements and alignments.
By placing a mirror under the TV, you can monitor the screen.

4.2.2 Aluminium Stands

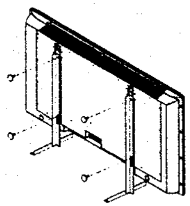

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Figure 4-3 Aluminium stands (drawing of MkI)

The aluminium stands (order code 3122 785 90480) can be mounted with the back cover removed or still left on. So, the stand can be used to store products or to do measurements. It is also very suitable to perform duration tests without taking much space, without having the risk of overheating, or the risk of products falling. The stands can be mounted and removed quick and easy with use of the delivered screws that can be tightened and loosened manually without the use of tools. See figure above.

Note: Only use the delivered screws to mount the monitor to the stands.

4.3 Assy/Panel Removal

4.3.1 Metal Rear Cover

Caution: Disconnect the Mains/AC Power cord before you remove the rear cover!

1. Place the TV set upside down on a table top, using the foam bars (see part "Foam Bars").
   Caution: do **not** put pressure on the display, but let the monitor lean on the speakers or the Front cover.
2. Remove all T10 screws around the edges of the metal rear cover: "parker" screws around the outer rim, "tapping" screws around the connector plate.
3. Remove the four "mushrooms" from the rear cover.
4. Lift the metal rear cover from the set. Make sure that wires and flat foils are not damaged.

4.3.2 Speaker Compartment Cover

After removing the metal rear cover, you gain access to the Speaker Compartment covers.

1. Remove all T10 screws [1] around the outer rim of the cover (see Figure "Speaker compartment cover removal").
2. Remove the T10 screws [2] on top of the inner rim, including the one which secures the grounding clamp (3, see Figure "Grounding clamp").
3. Now, remove the plastic cable fixation noose (4, see Figure "Cable fixation noose").
4. After removal of all the screws, slightly push the top of the cover inwards. This will lift the outer rim slightly up so you can take the cover out.

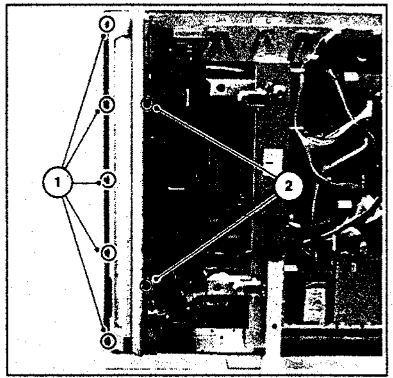

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Figure 4-4 Speaker compartment cover removal

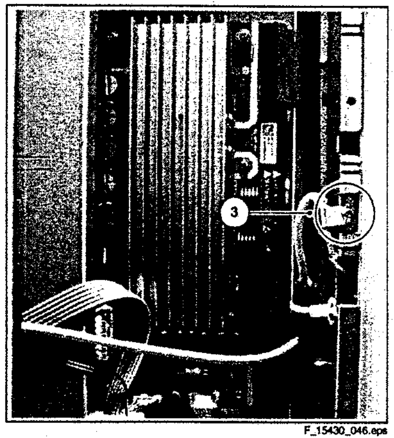

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Figure 4-5 Grounding clamp

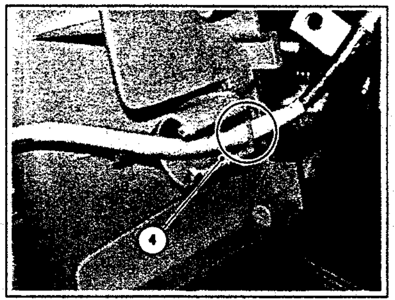

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Figure 4-6 Cable fixation noose

4.3.3 Side I/O Panel

After removal of the Speaker Compartment Covers, this panel is accessible.

1. Disconnect the cable (1) from the panel.
2. Remove the T10 mounting screws [2] that hold the assy.
3. Remove the panel from its bracket [3], by pushing against the front side of the side I/O cinch connectors.

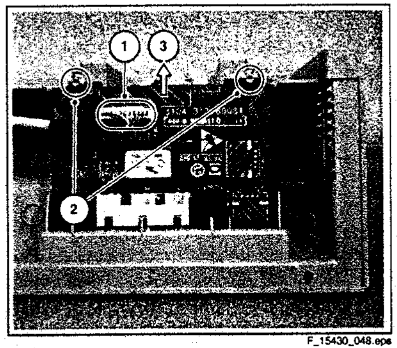

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Figure 4-7 Side I/O panel removal

When it is defective, replace the whole unit.

4.3.4 LED Panel

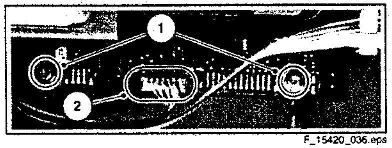

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Figure 4-8 LED panel

1. Remove the fixation screws (1) and take the panel out of its brackets.
2. Disconnect the cable (2) from the panel.

4.3.5 Keyboard Control Panel

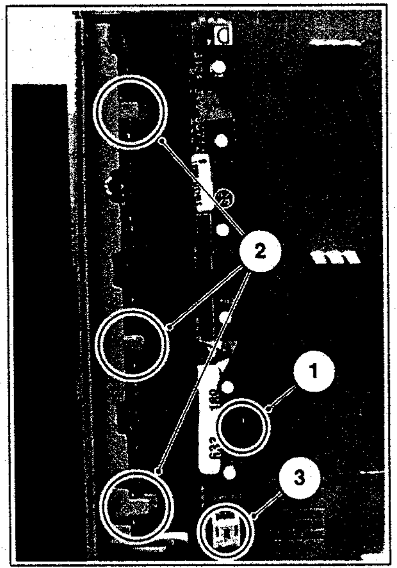

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Figure 4-9 Keyboard control panel

1. Remove the panel (1) from its three brackets (2).
2. Disconnect the cable (3) from the panel.

4.3.6 SSB Board Cover Shield

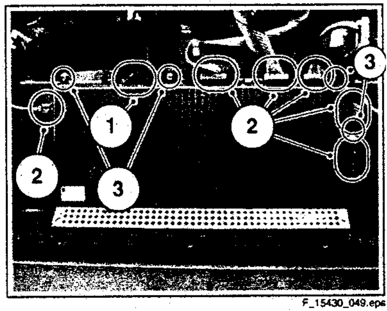

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Figure 4-10 SSB board cover shield

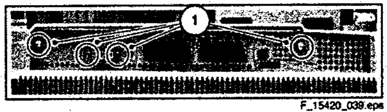

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Figure 4-11 DVI-I connector and rear I/O panel screws

1. **Very cautiously** disconnect the LVDS cable (1) from the SSB panel (see Figure "SSB board cover shield"). Notice that this cable is very fragile.
2. Remove all other cables (2) from the SSB board (see Figure "SSB board cover shield"), including the grounding cable.
3. Remove the fixation screws (3), see Figure "SSB board cover shield" and remove the SSB shield with the SSB board inside, and the rear I/O panel still attached to it.
4. Remove the fixation screws (1) from the DVI-I connector and from the rear panel, see Figure "DVI-I connector and rear panel screws", and remove the rear I/O panel from the SSB board.
5. Remove the upper part of the shield from the SSB panel, by unhooking it from its brackets. Be careful not to damage the LVDS connector on the SSB board, see Figure "SSB board cover shield".

4.3.7 SSB Board

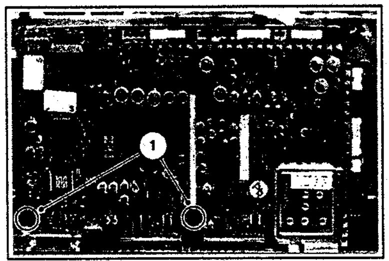

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Figure 4-12 SSB board

1. Remove the two fixation screws (1) that secure the SSB board on the lower part of the SSB shielding, see Figure "SSB board".
2. Remove the SSB panel.

4.3.8 Power Supply Panel

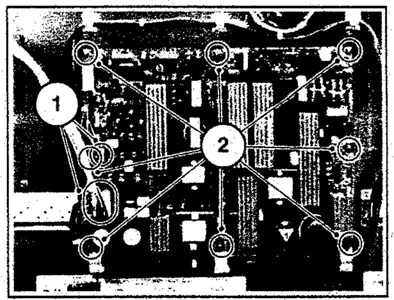

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Figure 4-13 Power supply panel

1. Disconnect all cables (1) from the panel.
2. Remove the fixation screws (2) from the panel.
3. Take the panel out of its brackets.

4.3.9 Class D Audio Amplifier Panel

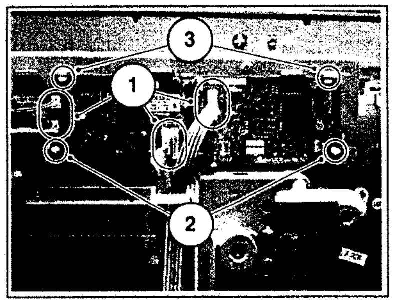

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Figure 4-14 Class D audio amplifier panel

1. Disconnect all cables (1) from the panel.
2. Pinch the plastic fixation clamps (2) firmly between your fingers, and pull the panel upwards.
3. Take the panel out of its brackets (3).

4.3.10 Plasma Display Panel / Glass Plate

1. Remove the T20 display panel mounting screws [1].
2. Remove the T10 screws [2] from the mounting frame.
3. Unplug all cable(s):
   - LVDS cable at SSB side (fragile connector!).
   - SSB supply cables at the Main Supply board.
   - Mains cable at the Main Supply board.
   - Side I/O cable at SSB side (fragile connector!).
   - Cable at LED panel.
   - Keyboard cable at SSB side.
   - Audio Amplifier supply cable at the Main Supply board.
   - Loudspeaker cables (incl. ferrites) at the Audio panel.
4. Lift the metal frame (together with all PWBs) from the display panel (see figure "Frame lift").
5. After removal of the frame, lift the PDP from the set.

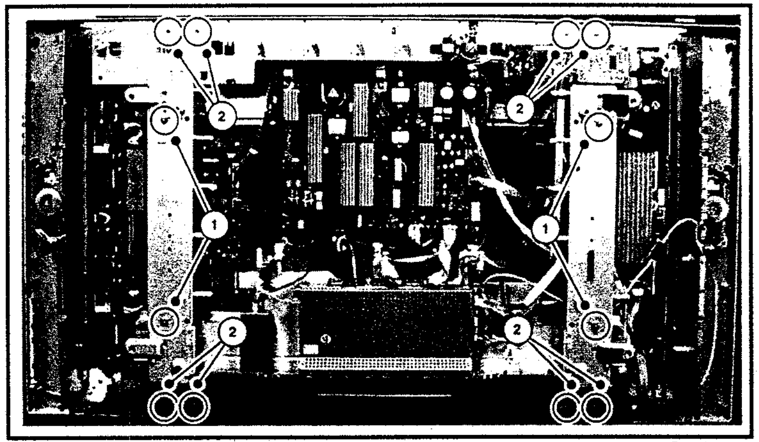

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Figure 4-15 Display panel removal

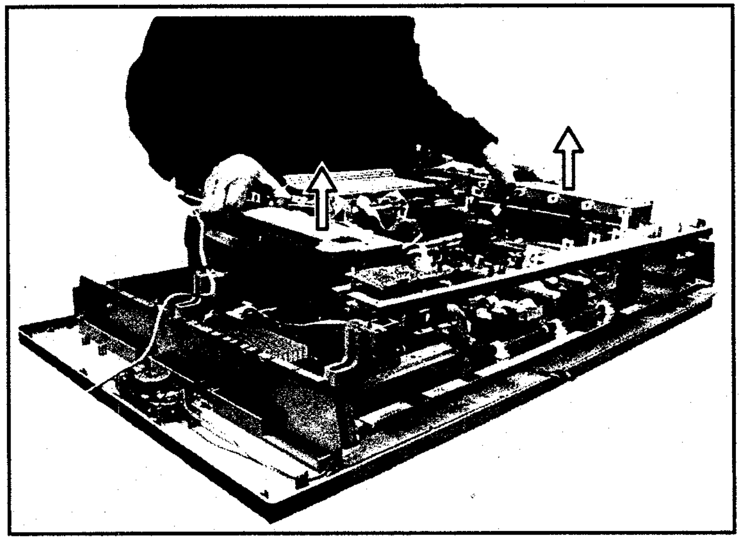

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Figure 4-16 Frame lift

4.3.11 PDP Glass Plate

In order to remove/exchange the PDP glass plate:

1. Remove the PDP as described earlier.
2. Remove the T10 screws [1] from the mounting frame.
3. After removal of the frame, you can lift the glass plate from the set.

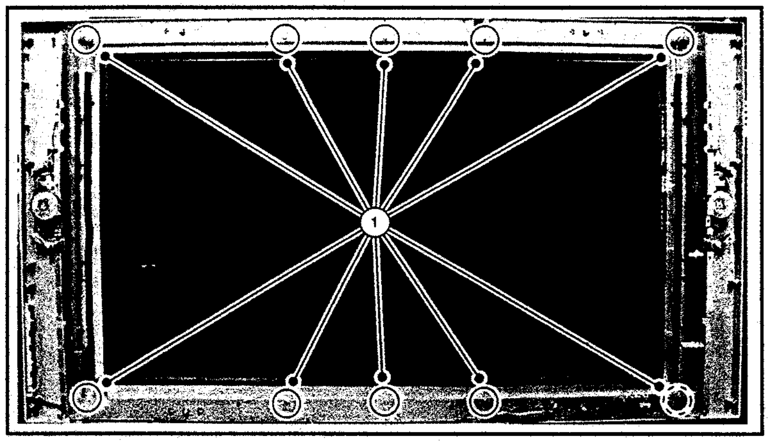

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Figure 4-17 Glass plate removal

4.4 Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

Notes:

- While re-assembling, make sure that all cables are placed and connected in their original positions. See Figure "Cable dressing". Be careful with the fragile LVDS cable.
- For a complete description of the Plasma panel, see the LGE plasma panel Service Manual (12nc is listed on the frontpage).

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:

5.1 Test Points
5.2 Service Modes
5.3 Problems and Solving Tips Related to CSM
5.4 Service Tools
5.5 Error Codes
5.6 The Blinking LED Procedure
5.7 Fault Finding and Repair Tips

5.1 Test Points

This chassis is equipped with test points in the service printing. In the schematics test points are identified with a rectangle box around Fxxx or Ixxx.
Perform measurements under the following conditions:

- Television set in Service Default Alignment Mode.
- Video input: Colour bar signal.
- Audio input: 3 kHz left channel, 1 kHz right channel.

5.2 Service Modes

Service Default mode (SDM) and Service Alignment Mode (SAM) offers several features for the service technician, while the Customer Service Mode (CSM) is used for communication between the call centre and the customer.

This chassis also offers the option of using ComPair, a hardware interface between a computer and the TV chassis. It offers the possibilities of structured troubleshooting, error code reading, and software version readout for all chassis.
Minimum requirements for ComPair: a Pentium processor, a Windows OS, and a CD-ROM drive (see also paragraph "ComPair").

5.2.1 Service Default Mode (SDM)

Purpose

- To create a predefined setting for measurements to be made.
- To override software protections.
- To start the blinking LED procedure.
- To inspect the error buffer.
- To check the life timer.

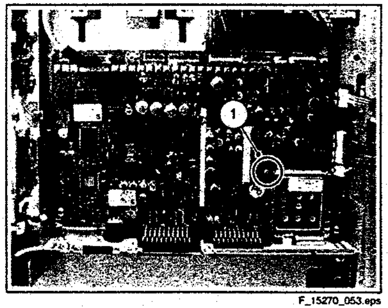
Specifications

- Tuning frequency: 475.25 MHz.
- Colour system: PAL-BG.
- All picture settings at 50% (brightness, colour contrast, hue).
- Bass, treble, and balance at 50 %; volume at 25 %.
- All service-unfriendly modes (if present) are disabled. The service unfriendly modes are:
  - Timer / Sleep timer.
  - Child / parental lock.
  - Blue mute.
  - Hotel / hospital mode.
  - Auto shut off (when no "IDENT" video signal is received for 15 minutes).
  - Skipping of non-favourite presets / channels.
  - Auto-storage of personal presets.
  - Auto user menu time-out.
  - Auto Volume Levelling (AVL).

How to Enter

To enter SDM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "**062596**" directly followed by the MENU button (do not allow the display to time out between entries while keying the sequence).
- Short "Service" jumpers on the TV board during cold start and apply mains (see Figure "Service jumpers"). Then press the mains button (remove the short after start-up). **Caution**: Entering SDM by shorting "Service" jumpers will override the +8V-protection. Do this only for a short period. When doing this, the service-technician must know exactly what he is doing, as it could damage the television set.
- Or via ComPair.



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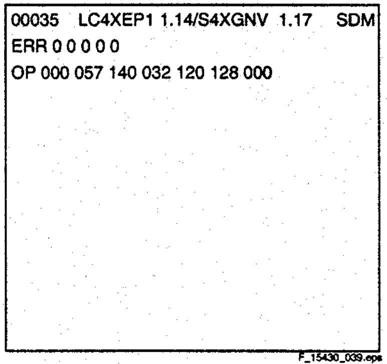
180505

Figure 5-1 Service jumpers

After entering SDM, the following screen is visible, with SDM in the upper right corner of the screen to indicate that the television is in Service Default Mode.



```
00035   LC4XEP1 1.14/S4XGNV  1.17    SDM
ERR 0 0 0 0 0
OP 000 057 140 032 120 128 000
```

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Figure 5-2 SDM menu

How to Navigate

Use one of the following methods:

- When you press the MENU button on the remote control, the set will switch on the normal user menu in the SDM mode.
- On the TV, press and hold the VOLUME DOWN and press the CHANNEL DOWN for a few seconds, to switch from SDM to SAM and reverse.

How to Exit

Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set.
If you turn the television set off by removing the mains (i.e., unplugging the television) without using the mains button, the television set will remain in SDM when mains is re-applied, and the error buffer is not cleared.

5.2.2 Service Alignment Mode (SAM)

Purpose

- To change option settings.
- To display / clear the error code buffer.
- To perform alignments.

Specifications

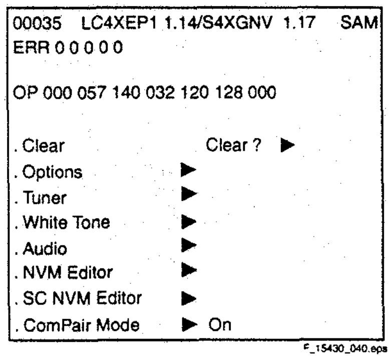
- Operation hours counter (maximum five digits displayed).
- Software version, Error codes, and Option settings display.
- Error buffer clearing.
- Option settings.
- AKB switching.
- Software alignments (Tuner, White Tone, Geometry & Audio).
- NVM Editor.
- ComPair Mode switching.

How to Enter

To enter SAM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "062596" directly followed by the OSD/STATUS/INFO(I+) button (do not allow the display to time out between entries while keying the sequence).
- Or via ComPair.

After entering SAM, the following screen is visible, with SAM in the upper right corner of the screen to indicate that the television is in Service Alignment Mode.



```
00035  LC4XEP1 1.14/S4XGNV 1.17   SAM
ERR 0 0 0 0 0

OP 000 057 140 032 120 128 000

. Clear              Clear ?  ▶
. Options          ▶
. Tuner            ▶
. White Tone       ▶
. Audio            ▶
. NVM Editor       ▶
. SC NVM Editor    ▶
. ComPair Mode     ▶  On
```

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080605

Figure 5-3 SAM menu

How to Store SAM Settings

To store the settings changed in SAM mode, leave the top level SAM menu by using the POWER button on the remote control transmitter or the television set.

Menu Explanation

1. **LLLLL.** This represents the run timer. The run timer counts normal operation hours, but does not count standby hours.
2. **AAABCD-X.Y.** This is the software identification of the main microprocessor:
   - A= the project name (LC04.x).
   - B= the region: E= Europe, A= Asia Pacific, U= NAFTA, L= LATAM.
   - C= the software diversity:
     - **Europe:** T= 1 page TXT, F= Full TXT, V= Voice control.
     - **LATAM and NAFTA:** N= Stereo non-dBx, S= Stereo dBx.
     - **Asian Pacific:** T= TXT, N= non-TXT, C= NTSC.
     - **ALL regions:** M= mono, D= DVD, Q= Mk2.
   - D= the language cluster number.
   - X= the main software version number (updated with a major change that is incompatible with previous versions).
   - Y= the sub software version number (updated with a minor change that is compatible with previous versions).
3. **EEEEE-F.GG.** This is the software identification of the Scaler:
   - **EEEEEE**= the scaler sw cluster
   - **F**= the main sw version no.
   - **GG**= the sub-version no.
4. **SAM.** Indication of the Service Alignment Mode.
5. **Error Buffer.** Shows all errors detected since the last time the buffer was erased. Five errors possible.
6. **Option Bytes.** Used to set the option bytes. See "Options" in the Alignments section for a detailed description. Seven codes are possible.
7. **Clear.** Erases the contents of the error buffer. Select the CLEAR menu item and press the MENU RIGHT key. The content of the error buffer is cleared.
8. **Options.** Used to set the option bits. See "Options" in the Alignments section for a detailed description.
9. **Tuner.** Used to align the tuner. See "Tuner" in the Alignments section for a detailed description.
10. **White Tone.** Used to align the white tone. See "White Tone" in the Alignments section for a detailed description.
11. **Audio.** No audio alignment is necessary for this television set.
12. **NVM Editor.** Can be used to change the NVM data in the television set. See table "NVM data" further on.
13. **SC NVM Editor.** Can be used to edit Scaler NVM.
14. **ComPair.** Can be used to switch on the television to In System Programming (ISP) mode, for software uploading via ComPair.
    Caution: When this mode is selected without ComPair connected, the TV will be blocked. Remove the AC power to reset the TV.

How to Navigate

- In SAM, select menu items with the MENU UP/DOWN keys on the remote control transmitter. The selected item will be highlighted. When not all menu items fit on the screen, use the MENU UP/DOWN keys to display the next / previous menu items.
- With the MENU LEFT/RIGHT keys, it is possible to:
  - Activate the selected menu item.
  - Change the value of the selected menu item.
  - Activate the selected submenu.
- In SAM, when you press the MENU button twice, the set will switch to the normal user menus (with the SAM mode still active in the background). To return to the SAM menu press the MENU or STATUS/EXIT button.
- When you press the MENU key in while in a submenu, you will return to the previous menu.

How to Exit

Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set.
If you turn the television set "off" by removing the mains (i.e., unplugging the television) without using the mains button, the television set will remain in SAM when mains is re-applied, and the error buffer is not cleared.

5.2.3 Customer Service Mode (CSM)

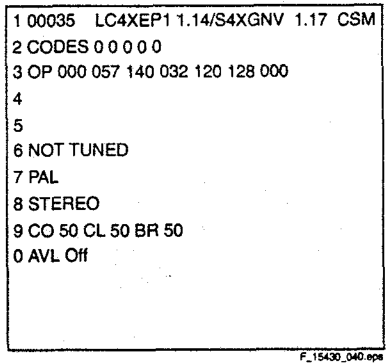
Purpose

The Customer Service Mode shows error codes and information on the TV's operation settings. The call centre can instruct the customer (by telephone) to enter CSM in order to identify the status of the set. This helps the call centre to diagnose problems and failures in the TV set before making a service call.
The CSM is a read-only mode; therefore, modifications are not possible in this mode.

How to Enter

To enter CSM, press the following key sequence on the remote control transmitter: "123654" (do not allow the display to time out between entries while keying the sequence).

Upon entering the Customer Service Mode, the following screen will appear:



```
1 00035   LC4XEP1 1.14/S4XGNV  1.17  CSM
2 CODES 0 0 0 0 0
3 OP 000 057 140 032 120 128 000
4
5
6 NOT TUNED
7 PAL
8 STEREO
9 CO 50 CL 50 BR 50
0 AVL Off
```

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Figure 5-4 CSM menu

Menu Explanation

1. Indication of the decimal value of the operation hours counter, Software identification of the main microprocessor (see "Service Default or Alignment Mode" for an explanation), and the service mode (CSM = Customer Service Mode).
2. Displays the last five errors detected in the error code buffer.
3. Displays the option bytes.
4. Displays the type number version of the set.
5. Reserved item for P3C call centres (AKBS stands for Advanced Knowledge Base System).
6. Indicates the television is receiving an "IDENT" signal on the selected source. If no "IDENT" signal is detected, the display will read "NOT TUNED"
7. Displays the detected Colour system (e.g. PAL/NTSC).
8. Displays the detected Audio (e.g. stereo/mono).
9. Displays the picture setting information.
10. Displays the sound setting information.

How to Exit

To exit CSM, use one of the following methods:

- Press the MENU, STATUS/EXIT, or POWER button on the remote control transmitter.
- Press the POWER button on the television set.

5.3 Problems and Solving Tips Related to CSM

5.3.1 Picture Problems

Note: The problems described below are all related to the TV settings. The procedures used to change the value (or status) of the different settings are described.

Picture too Dark or too Bright

If:

- The picture improves when you press the AUTO PICTURE button on the remote control transmitter, or
- The picture improves when you enter the Customer Service Mode,

Then:

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select BRIGHTNESS.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the BRIGHTNESS value.
7. Use the MENU UP/DOWN keys to select PICTURE.
8. Press the MENU LEFT/RIGHT keys to increase or decrease the PICTURE value.
9. Press the MENU button on the remote control transmitter twice to exit the user menu.
10. The new PERSONAL preference values are automatically stored.

White Line around Picture Elements and Text

If:

The picture improves after you have pressed the AUTO PICTURE button on the remote control transmitter,

Then:

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys to select SHARPNESS.
6. Press the MENU LEFT key to decrease the SHARPNESS value.
7. Press the MENU button on the remote control transmitter twice to exit the user menu.
8. The new PERSONAL preference value is automatically stored.

Snowy Picture

Check CSM line 6. If this line reads "Not Tuned", check the following:

- Antenna not connected. Connect the antenna.

- No antenna signal or bad antenna signal. Connect a proper antenna signal.
- The tuner is faulty (in this case line 2, the Error Buffer line, will contain error number 10). Check the tuner and replace/repair the tuner if necessary.

Black and White Picture

If:

- The picture improves after you have pressed the AUTO PICTURE button on the remote control transmitter.

Then:

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys to select COLOR.
6. Press the MENU RIGHT key to increase the COLOR value.
7. Press the MENU button on the remote control transmitter twice to exit the user menu.
8. The new PERSONAL preference value is automatically stored.

Menu Text not Sharp Enough

If:

- The picture improves after you have pressed the AUTO PICTURE button on the remote control transmitter.

Then:

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys to select PICTURE.
6. Press the MENU LEFT key to decrease the PICTURE value.
7. Press the MENU button on the remote control transmitter twice to exit the user menu.
8. The new PERSONAL preference value is automatically stored.

5.4 Service Tools

5.4.1 ComPair

Introduction

ComPair (Computer Aided Repair) is a service tool for Philips Consumer Electronics products. ComPair is a further development on the European DST (service remote control), which allows faster and more accurate diagnostics. ComPair has three big advantages:

1. ComPair helps you to quickly get an understanding on how to repair the chassis in a short time by guiding you systematically through the repair procedures.
2. ComPair allows very detailed diagnostics (on I^2C level) and is therefore capable of accurately indicating problem areas. You do not have to know anything about I^2C commands yourself because ComPair takes care of this.
3. ComPair speeds up the repair time since it can automatically communicate with the chassis (when the microprocessor is working) and all repair information is directly available. When ComPair is installed together with the Force/SearchMan electronic manual of the defective chassis, schematics and PWBs are only a mouse click away.

Specifications

ComPair consists of a Windows based fault finding program and an interface box between PC and the (defective) product. The ComPair interface box is connected to the PC via a serial (or RS-232) cable.
For this chassis, the ComPair interface box and the TV communicate via a bi-directional service cable via the service connector(s).

The ComPair faultfinding program is able to determine the problem of the defective television. ComPair can gather diagnostic information in two ways:

- Automatically (by communicating with the television): ComPair can automatically read out the contents of the entire error buffer. Diagnosis is done on I^2C/UART level. ComPair can access the I^2C/UART bus of the television. ComPair can send and receive I^2C/UART commands to the microcontroller of the television. In this way, it is possible for ComPair to communicate (read and write) to devices on the I^2C/UART buses of the TV-set.
- Manually (by asking questions to you): Automatic diagnosis is only possible if the microcontroller of the television is working correctly and only to a certain extent. When this is not the case, ComPair will guide you through the faultfinding tree by asking you questions *(e.g. Does the screen give a picture? Click on the correct answer: YES / NO)* and showing you examples *(e.g. Measure test-point I7 and click on the correct oscillogram you see on the oscilloscope)*. You can answer by clicking on a link *(e.g. text or a waveform picture)* that will bring you to the next step in the faultfinding process.

By a combination of automatic diagnostics and an interactive question / answer procedure, ComPair will enable you to find most problems in a fast and effective way.

How To Connect

This is described in the chassis faultfinding database in ComPair.

Caution: It is compulsory to connect the TV to the PC as shown in the picture below (with the ComPair interface in between), as the ComPair interface acts as a level shifter. If one connects the TV directly to the PC (via UART), ICs will be blown!

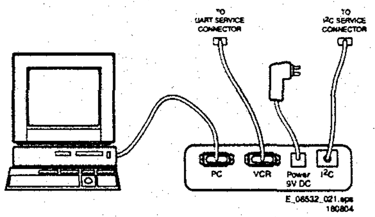


Figure 5-5 ComPair Interface connection

How To Order

- ComPair order codes (EU/AP/LATAM):
- Starter kit ComPair32/SearchMan32 software and ComPair interface (excl. transformer): 3122 785 90450.
- ComPair interface (excl. transformer): 4822 727 21631.
- Starter kit ComPair32 software (registration version): 3122 785 60040.
- Starter kit SearchMan32 software: 3122 785 60050.
- ComPair32 CD (update): 3122 785 60070 (year 2002), 3122 785 60110 (year 2003 onwards).
- SearchMan32 CD (update): 3122 785 60080 (year 2002), 3122 785 60120 (year 2003), 3122 785 60130 (year 2004).
- ComPair firmware upgrade IC: 3122 785 90510.
- Transformer (non-UK): 4822 727 21632.
- Transformer (UK): 4822 727 21633.
- ComPair interface cable: 3122 785 90004.
- ComPair interface extension cable: 3139 131 03791.
- ComPair UART interface cable: 3122 785 90630.

Note: If you encounter any problems, contact your local support desk.

5.4.2 LVDS Tool

Introduction

This service tool (also called "ComPair Assistant 1") may help you to identify, in case the TV does not show any picture, whether the Small Signal Board (SSB) or the display of a Flat TV is defective.
Furthermore it is possible to program EPLDs with this tool (Byteblaster). Read the user manual for an explanation of this feature.

Since 2004, the LVDS output connectors in our Flat TV models are standardised (with some exceptions). With the two delivered LVDS interface cables (31p and 20p) you can cover most chassis (in special cases, an extra cable will be offered).

When operating, the tool will show a small (scaled) picture on a VGA monitor. Due to a limited memory capacity, it is not possible to increase the size when processing high-resolution LVDS signals (>= 1280x768). Generally this tool is intended to determine if the SSB is working or not. Thus to determine if LVDS, RGB, and sync signals are okay.

How to Connect

Connections are explained in the user manual, which is delivered with the tool.

Note: To use the LVDS tool, you must have ComPair release 2004-1 (or later) on your PC (engine version >= 2.2.05).
For every TV type number and screen size, one must choose the proper settings via ComPair. The ComPair file will be updated regularly with new introduced chassis information.

How to Order

- LVDS tool (incl. two LVDS cables: 31p and 20p): 3122 785 90671.
- Service Manual LVDS tool: 3122 785 00810.
- LVDS cable 20p (for Telra 14-inch): 3122 785 90810.
- LVDS cable 30p (for LC4.3): 3122 785 90820.
- LVDS cable 41p-to-31p for CA1 (dual -> single LVDS): 3122 785 90830.

5.5 Error Codes

The error code buffer contains all errors detected since the last time the buffer was erased. The buffer is written from left to right. When an error occurs that is not yet in the error code buffer, it is displayed at the left side and all other errors shift one position to the right.

5.5.1 How to Read the Error Buffer

You can read the error buffer in 3 ways:

- On screen via the SAM (if you have a picture).
  Examples:
  - ERROR: 0 0 0 0 0 : No errors detected
  - ERROR: 6 0 0 0 0 : Error code 6 is the last and only detected error
  - ERROR: 9 6 0 0 0 : Error code 6 was detected first and error code 9 is the last detected (newest) error
- Via the blinking LED procedure (when you have no picture). See "The Blinking LED Procedure".
- Via ComPair.

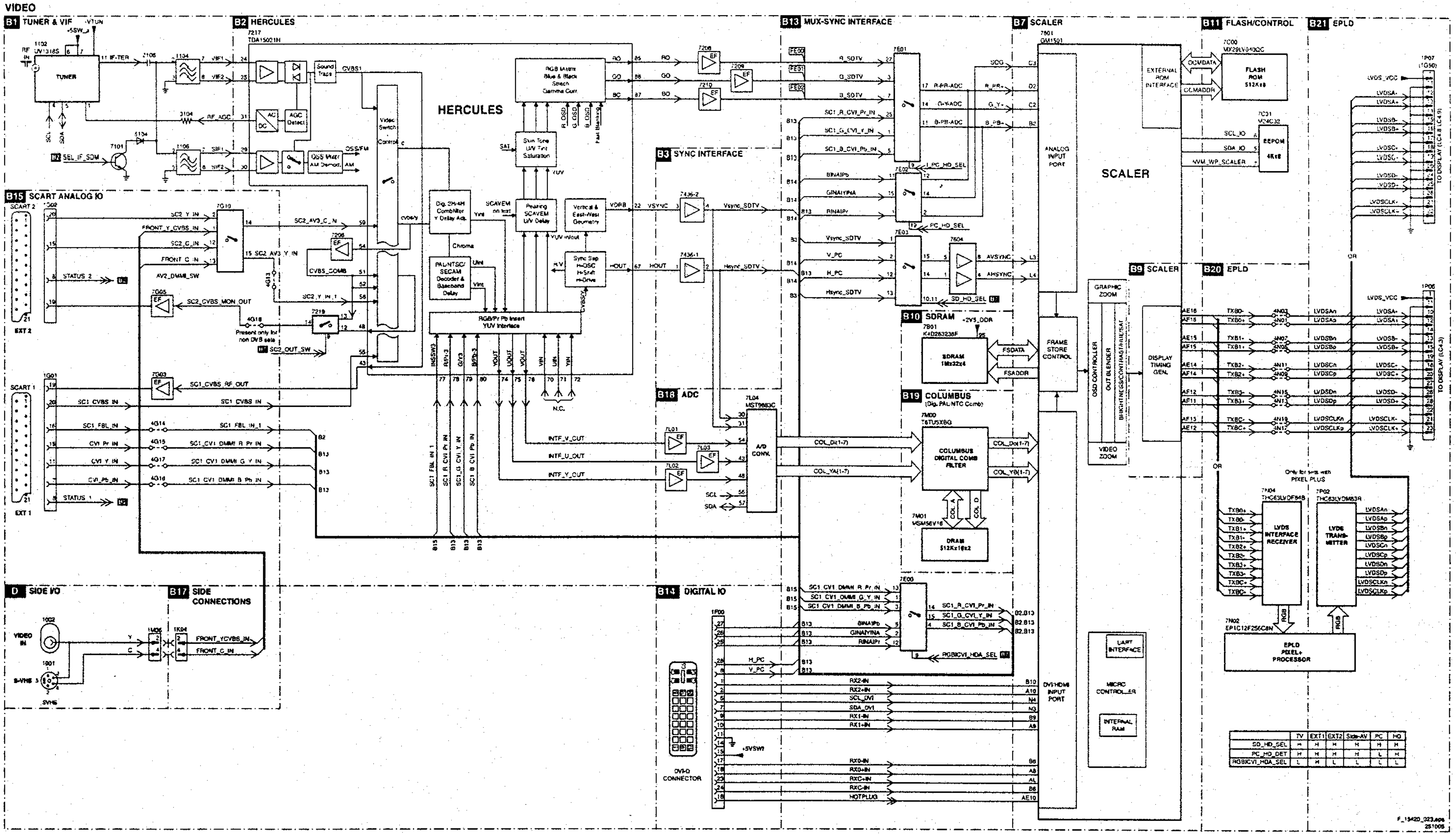
5.5.2 How to Clear the Error Buffer

The error code buffer is cleared in the following cases:

- By using the CLEAR command in the SAM menu:
  - To enter SAM, press the following key sequence on the remote control transmitter: "**062596**" directly followed by the OSD/STATUS button (do not allow the display to time out between entries while keying the sequence).
  - Make sure the menu item CLEAR is highlighted. Use the MENU UP/DOWN buttons, if necessary.
  - Press the MENU RIGHT button to clear the error buffer. The text on the right side of the "CLEAR" line will change from "CLEAR?" to "CLEARED"
- If the contents of the error buffer have not changed for 50 hours, the error buffer resets automatically.

Note: If you exit SAM by disconnecting the mains from the television set, the error buffer is not reset.

Block Diagram Video


VIDEO
B1 TUNER & VIF
TUNER
B2 HERCULES
7217
TDA15021H
HERCULES
B13 MUX-SYNC INTERFACE
B7 SCALER
SCALER
B11 FLASH/CONTROL
FLASH ROM 512Kx8
EEPROM 4Kx8
B21 EPLD
TO DISPLAY (LC4.9)
B15 SCART ANALOG IO
SCART 2
EXT 2
SCART 1
EXT 1
B3 SYNC INTERFACE
B9 SCALER
B20 EPLD
B10 SDRAM
B19 COLUMBUS
COLUMBUS DIGITAL COMB FILTER
DRAM 512Kx16x2
B18 ADC
A/D CONV.
D SIDE I/O
B17 SIDE CONNECTIONS
VIDEO IN
S-VHS
B14 DIGITAL IO
DVI-D CONNECTOR
ANALOG INPUT PORT
FRAME STORE CONTROL
DISPLAY TIMING GEN.
DVI/HDMI INPUT PORT
MICRO CONTROLLER
INTERNAL RAM
UART INTERFACE
EXTERNAL ROM INTERFACE
LVDS INTERFACE RECEIVER
LVDS TRANSMITTER
EPLD PIXEL+ PROCESSOR
Only for sets with PIXEL PLUS
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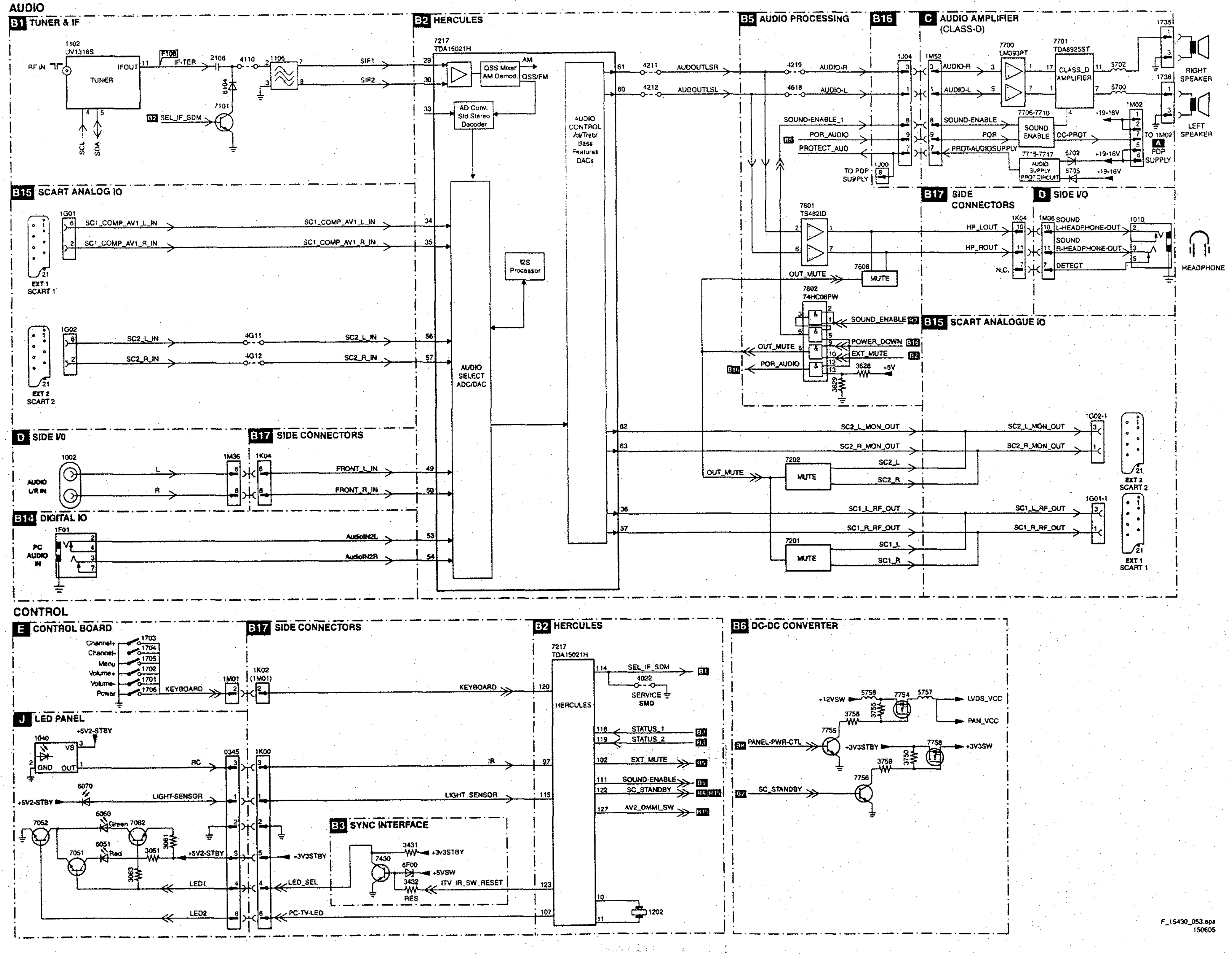
	TV	EXT1	EXT2	Side-AV	PC	HD
SD_HD_SEL	H	H	H	H	H	H
PC_HD_DET	H	H	H	H	L	H
RGBICVI_HDA_SEL	L	H	L	L	L	L

Block Diagram Audio


AUDIO
B1 TUNER & IF
1102 UV1318S
RF IN
TUNER
IFOUT
IF-TER
2106
4110
1106
SIF1
SIF2
7101
SEL_IF_SDM
SCL
SDA
B2 HERCULES
7217 TDA15021H
QSS Mixer AM Demod.
AM
QSS/FM
AD Conv. Std Stereo Decoder
AUDIO CONTROL Vol/Treb/Bass Features DACs
I2S Processor
AUDIO SELECT ADC/DAC
AUDOUTLSR
AUDOUTLSL
B5 AUDIO PROCESSING
AUDIO-R
AUDIO-L
SOUND-ENABLE_1
POR_AUDIO
PROTECT_AUD
TO PDP SUPPLY
B16
C AUDIO AMPLIFIER (CLASS-D)
7700 LM393PT
7701 TDA8925ST
CLASS_D AMPLIFIER
SOUND ENABLE
DC-PROT
PROT-AUDIOSUPPLY
AUDIO SUPPLY PROT.CIRCUIT
-19-16V
+19-16V
RIGHT SPEAKER
LEFT SPEAKER
TO 1M02
PDP SUPPLY
7601 TS482ID
HP_LOUT
HP_ROUT
N.C.
OUT_MUTE
MUTE
7602 74HC08PW
SOUND_ENABLE
POWER_DOWN
EXT_MUTE
B17 SIDE CONNECTORS
D SIDE I/O
SOUND L-HEADPHONE-OUT
SOUND R-HEADPHONE-OUT
DETECT
HEADPHONE
B15 SCART ANALOGUE IO
B15 SCART ANALOG IO
SC1_COMP_AV1_L_IN
SC1_COMP_AV1_R_IN
EXT 1 SCART 1
SC2_L_IN
SC2_R_IN
EXT 2 SCART 2
SC2_L_MON_OUT
SC2_R_MON_OUT
SC2_L
SC2_R
SC1_L_RF_OUT
SC1_R_RF_OUT
SC1_L
SC1_R
D SIDE I/O
AUDIO L/R IN
FRONT_L_IN
FRONT_R_IN
B14 DIGITAL IO
PC AUDIO IN
AudioIN2L
AudioIN2R
CONTROL
E CONTROL BOARD
Channel+
Channel-
Menu
Volume+
Volume-
Power
KEYBOARD
J LED PANEL
+5V2-STBY
RC
LIGHT-SENSOR
Green
Red
LED1
LED2
B17 SIDE CONNECTORS
IR
LIGHT_SENSOR
LED_SEL
PC-TV-LED
B3 SYNC INTERFACE
+3V3STBY
+5VSW
ITV_IR_SW_RESET
RES
B2 HERCULES
7217 TDA15021H
HERCULES
SEL_IF_SDM
SERVICE SMD
STATUS_1
STATUS_2
EXT_MUTE
SOUND-ENABLE
SC_STANDBY
AV2_DMMI_SW
1202
B6 DC-DC CONVERTER
+12VSW
LVDS_VCC
PAN_VCC
PANEL-PWR-CTL
+3V3STBY
+3V3SW
SC_STANDBY
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Testpoint Overview SSB (Top Side)

F101	C1
F102	D2
F103	C1
F104	D2
F105	D1
F106	D2
F107	C1
F108	C2
F109	C2
F110	B2
F111	B2
F112	B2
F113	B2
F114	C2
F115	D2
F116	D2
F117	D2
F201	A2
F202	A2
F203	A2
F204	B3
F205	B2
F206	B2
F207	B2
F208	B2
F209	B2
F210	C2
F211	A2
F212	A2
F213	A2
F214	A2
F215	A2
F216	B3
F218	A2
F219	A2
F220	A3
F221	A3
F222	B2
F223	B2
F224	A2
F225	A3
F226	A3
F227	C3
F228	A3
F229	B2
F230	A3
F231	A2
F232	B3
F233	B3
F234	B3
F235	B3
F236	C3
F237	B2
F238	B2
F239	B2
F240	B2
F241	B3
F242	B2
F243	B2
F244	B2
F245	A2
F246	B2
F247	A2
F248	B2
F249	B2
F250	B3
F501	A2
F502	A2
F503	A2
F504	A2
F505	A3
F601	A1
F602	A2
F603	A1
F604	A2
F605	A2
F700	A6
F701	A5
F710	A5
F736	A3
F737	A3
F738	A3
F743	B3
F754	A5
F755	A6
F800	B7
F801	B6
F802	C5
F803	B5
F804	B5
F900	C5
F901	C5
F902	C6
F903	C5
F904	C6
F905	B6
F906	B6
F907	B5
F908	C5
F909	C5
F910	C6
FB01	B7
FC00	B5
FC01	B5
FC02	B5
FC03	B5
FC04	B5
FC05	C5
FC06	B5
FC07	B4
FC08	B5
FC09	B5
FC10	B4
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FD01	D7
FD02	D7
FD03	D7
FD04	C7
FD05	C6
FD06	C6
FD07	C7
FD08	C7
FD09	C7
FD10	C7
FD11	D7
FD12	C7
FD13	C7
FD14	C7
FD15	C7
FD16	C7
FD17	B6
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FE01	C5
FE02	C4
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FE05	C5
FE06	D5
FE07	B7
FE08	C4
FE09	C5
FE10	C4
FE11	C5
FE12	C5
FE13	C5
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FF01	D6
FF02	D4
FF03	D7
FF04	D7
FF05	D7
FF06	D6
FF07	D6
FF08	D3
FF09	D7
FF10	D6
FF11	D6
FF12	D6
FF13	D6
FG00	D4
FG01	D4
FG02	D3
FG03	D4
FG04	D3
FG05	D3
FG06	D3
FG07	D3
FG08	D3
FG09	D3
FG10	D2
FG11	D3
FG12	D2
FG13	D2
FG14	D6
FG15	D5
FG16	D6
FG17	D6
FG18	D5
FG19	D5
FG20	D5
FG21	D5
FG22	D5
FG23	D4
FG24	D3
FG25	D3
FG26	D5
FG27	D5
FG28	D5
FG30	D5
FG32	D3
FG33	D3
FG34	D3
FG35	D3
FG36	D4
FG37	D3
FG38	D3
FG39	D4
FG40	D7
FG41	D3
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FG43	D4
FG44	D4
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FG48	D4
FG49	D4
FG50	D4
FG51	C2
FG53	D4
FG54	D4
FG56	D4
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FJ01	A5
FJ02	A4
FJ03	A5
FJ04	A5
FJ05	A4
FJ06	A4
FJ07	A5
FJ08	A4
FJ09	A2
FJ10	A2
FJ11	A4
FJ12	A2
FJ13	A2
FJ14	A2
FJ15	A7
FJ16	A7
FJ17	A7
FJ18	A7
FJ19	A7
FJ20	A7
FJ21	A5
FJ22	A5
FJ23	A5
FJ24	A5
FJ25	A5
FJ26	A5
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FK01	B1
FK02	B1
FK03	B1
FK04	B1
FK05	B1
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FN10	A7
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FN15	A6
FN16	A6
FN17	A6
FN18	B6
FN19	B5
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FN23	A7
FN24	A6
FN25	B6
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FN28	A7
FN29	A7
FN30	A7
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FN34	A7
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FP06	A6
FP07	A6
FP08	A7
FP09	A7
FP10	A7
FP11	A7
FP12	A7
FP13	A6
FP14	A7
FP15	A6
FP16	A6
FP17	A7
I101	D2
I102	C2
I103	C2
I104	C2
I105	C2
I106	C2
I107	C2
I108	C2
I109	C2
I110	C2
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I223	A2
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I225	A2
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I273	C3
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I275	A3
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I283	B3
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I285	B3
I288	B3
I289	A2
I290	A2
I291	A2
I292	A2
I293	A2
I294	A2
I297	A1
I298	B3
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I502	A3
I503	A2
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I505	A2
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I606	A2
I607	A1
I608	A1
I610	A1
I611	B1
I612	A1
I613	A1
I614	A1
I615	A1
I616	A1
I617	A2
I618	A1
I619	A1
I705	A3
I706	A4
I708	A5
I709	A5
I710	A4
I711	A4
I712	A4
I713	A4
I714	A4
I715	A4
I716	A4
I731	A4
I732	A3
I733	A3
I734	A3
I735	A3
I736	A3
I740	B3
I741	B3
I742	B3
I747	A5
I748	A5
I749	A5
I750	A6
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I752	A5
I753	A5
I754	A5
I755	A5
I756	A6
I757	A5
I758	A5
I759	A5
I760	A6
I800	C6
I801	C5
I802	B5
I803	B5
I804	B6
I805	B5
I806	B5
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I810	B5
I811	C7
I812	C6
I813	B7
I815	C6
I816	C6
I817	C6
I818	C4
I819	B5
I820	B6
I821	B5
I822	B5
I900	B7
I901	B6
I902	C6
I903	C6
I904	B6
I905	B6
I906	C5
IA00	C6
IA03	B4
IA05	C6
IA06	C6
IA07	C6
IA08	B5
IA09	B6
IB02	B7
IB03	B7
ID00	C7
ID01	D7
ID02	C7
ID03	C7
ID04	C7
ID05	C7
ID06	C7
ID07	C7
ID08	C7
ID09	C7
ID10	C7
ID11	C7
ID12	C7
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ID14	C6
ID15	C7
ID16	C7
ID17	C7
ID18	C7
ID19	C7
ID20	C7
ID21	C7
ID22	C6
IE00	D4
IE01	C4
IE02	D5
IE03	C6
IE04	C5
IE05	C5
IE06	C4
IE07	C4
IE08	C4
IE09	C5
IE10	C5
IE11	C5
IE12	C5
IE13	D5
IE14	D4
IE15	D4
IE16	C4
IE17	C4
IE18	C4
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IE37	C5
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IF08	D7
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IF12	D6
IF13	D7
IF14	D7
IF15	D6
IF17	D7
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IF23	D6
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IG16	D6
IG17	D5
IG18	D6
IG19	D5
IG20	D6
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IG29	D3
IG30	D3
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IG57	D5
IG58	D5
IG59	D4
IG60	D3
IG61	D2
IG62	D2
IG63	D3
IG64	D3
IG67	D3
IG69	D3
IG73	D4
IG75	D5
IG76	D6
IG78	D5
IG79	D5
IG80	D5
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IJ02	A3
IJ03	A4
IJ04	A3
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IJ06	A3
IJ07	A3
IJ08	A3
IJ09	A3
IJ10	A3
IJ11	A3
IJ12	A3
IJ13	A3
IK00	A1
IK01	A1
IK02	A1
IK03	A1
IK16	A1
IK17	B1
IK18	B1
IL01	B3
IL02	B3
IL03	B3
IL04	B3
IL05	B3
IL06	B3
IL07	B3
IL08	B3
IL09	B3
IL10	B4
IL11	B4
IL12	B4
IL13	B4
IL14	B4
IL15	B4
IL16	C3
IL17	B3
IL18	B3
IL19	B4
IM00	C4
IM01	C3
IM03	B4
IM04	B4
IM06	B4
IM07	B4
IM08	B4
IM09	B4
IM10	B3
IM11	C3
IN01	A6
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IN05	A6
IN06	A6
IN07	B6
IN08	A6
IN09	A6
IN10	A6
IN11	A6
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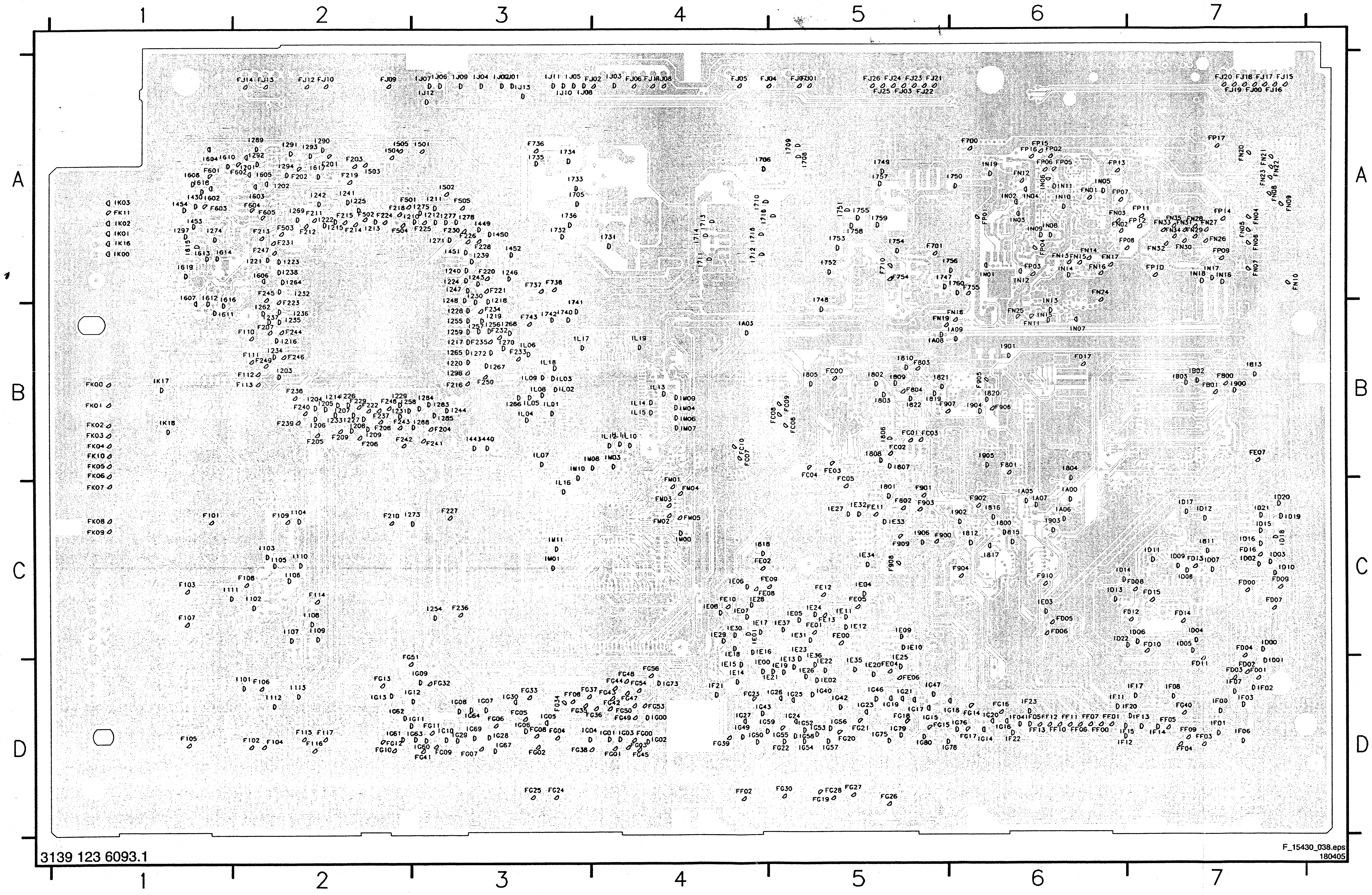
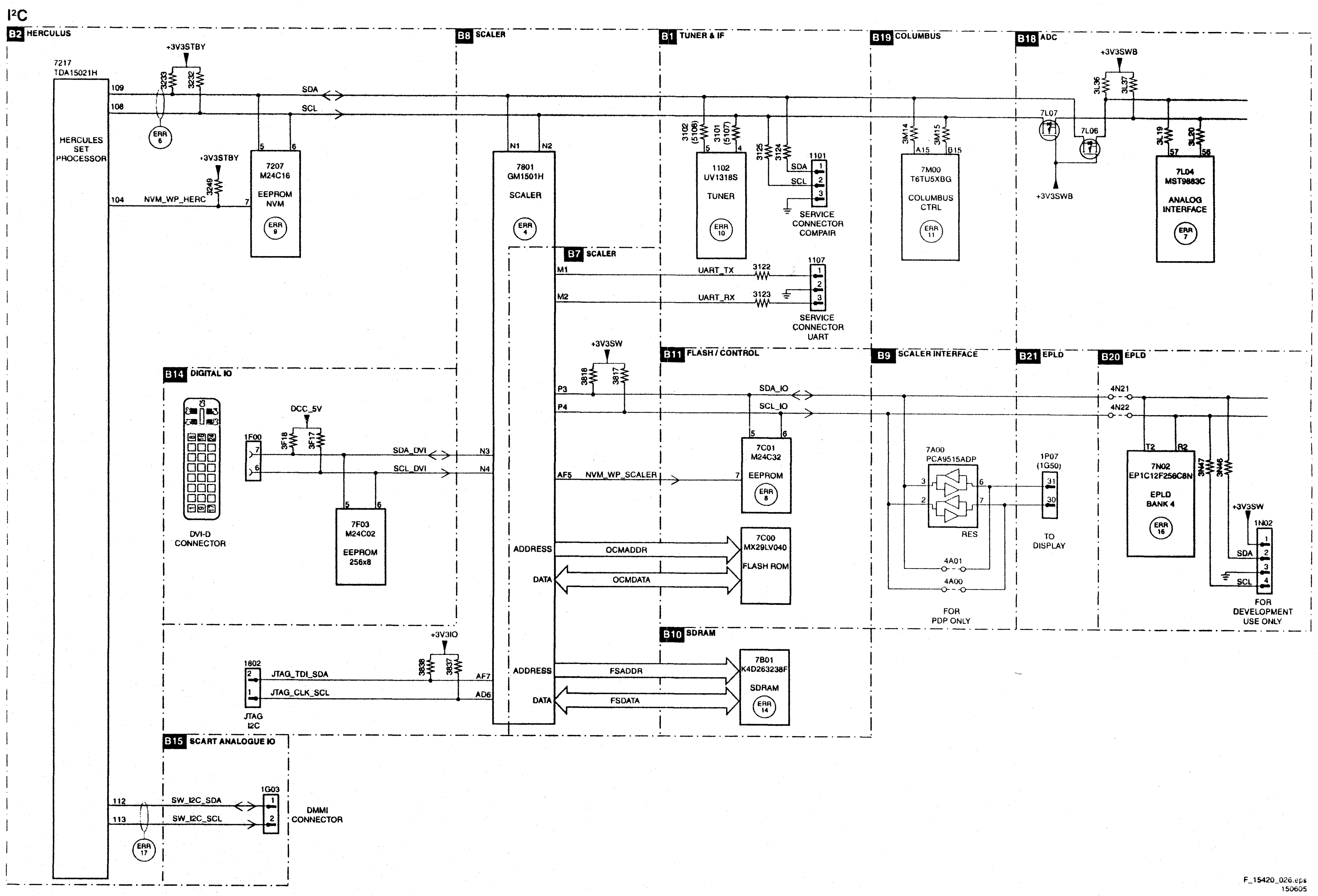
IN13	B6
IN14	A6
IN15	B6
IN16	A7
IN17	A7
IN18	A7
IN19	A6



I2C IC Overview


I²C
B2 HERCULUS
7217
TDA15021H
HERCULES SET PROCESSOR
109
108
104
112
113
+3V3STBY
3233
3232
ERR 6
SDA
SCL
7207
M24C16
EEPROM
NVM
ERR 9
3249
NVM_WP_HERC
B8 SCALER
7801
GM1501H
SCALER
ERR 4
N1
N2
B7 SCALER
M1
M2
P3
P4
AF5
ADDRESS
DATA
AF7
AD6
N3
N4
B1 TUNER & IF
3102 (5106)
3101 (5107)
1102
UV1318S
TUNER
ERR 10
3125
3124
1101
SERVICE CONNECTOR COMPAIR
UART_TX
UART_RX
3122
3123
1107
SERVICE CONNECTOR UART
B19 COLUMBUS
3M14
3M15
A15
B15
7M00
T6TU5XBG
COLUMBUS CTRL
ERR 11
B18 ADC
+3V3SWB
3L36
3L37
7L07
7L06
3L19
3L20
57
58
7L04
MST9883C
ANALOG INTERFACE
ERR 7
B14 DIGITAL IO
DVI-D CONNECTOR
1F00
DCC_5V
3F18
3F17
SDA_DVI
SCL_DVI
7F03
M24C02
EEPROM
256x8
+3V3SW
3818
3817
B11 FLASH / CONTROL
SDA_IO
SCL_IO
7C01
M24C32
EEPROM
ERR 8
NVM_WP_SCALER
OCMADDR
OCMDATA
7C00
MX29LV040
FLASH ROM
B9 SCALER INTERFACE
7A00
PCA9515ADP
RES
4A01
4A00
FOR PDP ONLY
B21 EPLD
1P07
(1G50)
TO DISPLAY
B20 EPLD
4N21
4N22
T2
R2
7N02
EP1C12F256C8N
EPLD BANK 4
ERR 16
3N47
3N46
1N02
FOR DEVELOPMENT USE ONLY
+3V3IO
3838
3837
1802
JTAG_TDI_SDA
JTAG_CLK_SCL
JTAG I2C
B10 SDRAM
FSADDR
FSDATA
7B01
K4D263238F
SDRAM
ERR 14
B15 SCART ANALOGUE IO
1G03
SW_I2C_SDA
SW_I2C_SCL
DMMI CONNECTOR
ERR 17

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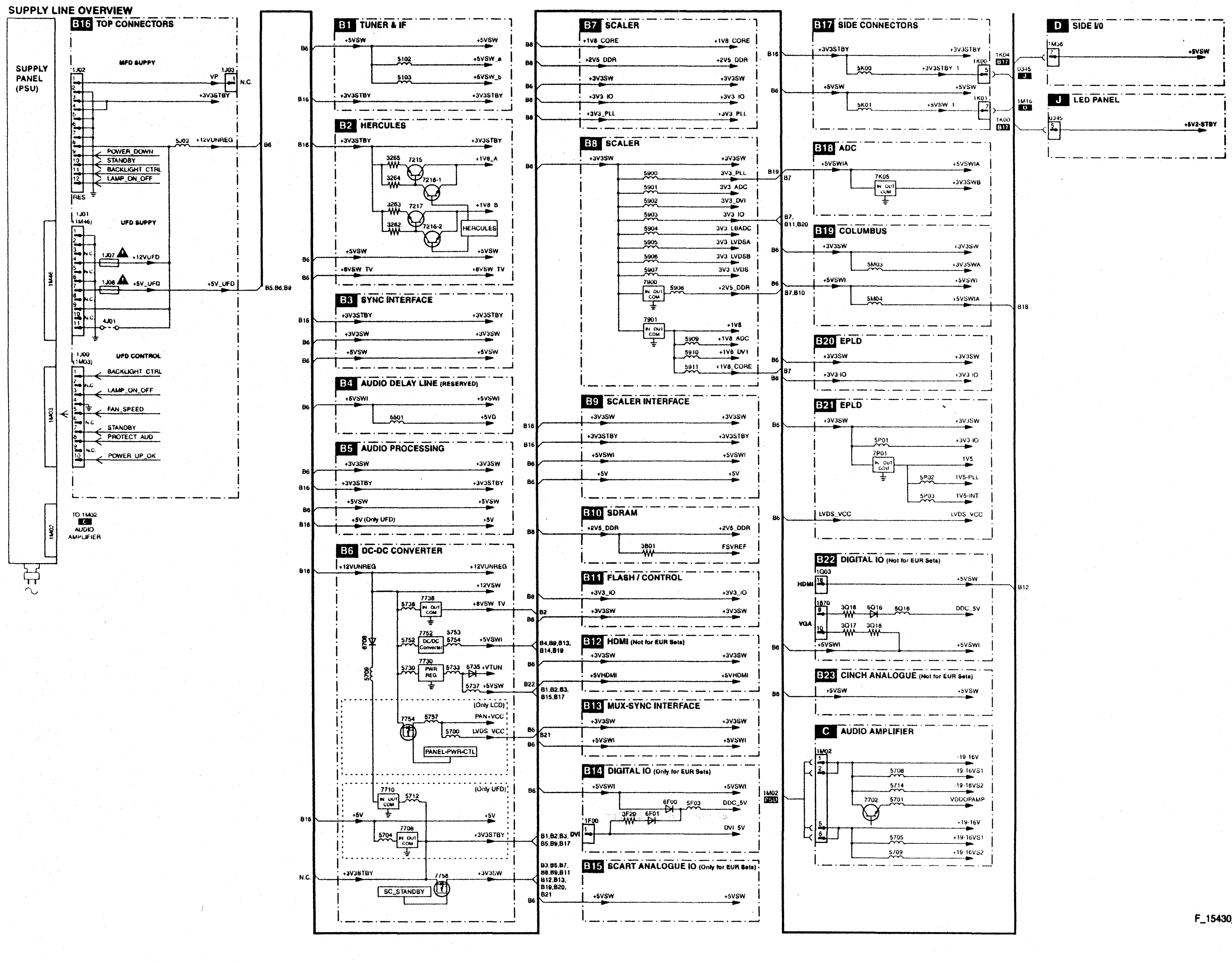
150605

Supply Voltage Overview


SUPPLY LINE OVERVIEW
SUPPLY PANEL (PSU)
B16 TOP CONNECTORS
MFD SUPPY
1J02
1J03
VP
+3V3STBY
N.C
POWER_DOWN
STANDBY
BACKLIGHT_CTRL
LAMP_ON_OFF
RES
1J01 (1M46)
UFD SUPPY
1J07
+12VUFD
1J06
+5V_UFD
UFD CONTROL
1J00 (1M03)
BACKLIGHT_CTRL
LAMP_ON_OFF
FAN_SPEED
STANDBY
PROTECT_AUD
POWER_UP_OK
TO 1M02 C AUDIO AMPLIFIER
+12VUNREG
B1 TUNER & IF
+5VSW
+5VSW_a
+5VSW_b
+3V3STBY
B2 HERCULES
+1V8_A
+1V8_B
HERCULES
+8V6SW_TV
B3 SYNC INTERFACE
B4 AUDIO DELAY LINE (RESERVED)
+5VSWI
+5VD
B5 AUDIO PROCESSING
+3V3SW
+5V (Only UFD)
B6 DC-DC CONVERTER
+12VUNREG
+12VSW
+8V6SW_TV
+5VSWI
+VTUN
+5VSW
(Only LCD)
PANEL-VCC
LVDS_VCC
PANEL-PWR-CTL
(Only UFD)
+5V
+3V3STBY
SC_STANDBY
B7 SCALER
+1V8_CORE
+2V5_DDR
+3V3SW
+3V3_IO
+3V3_PLL
B8 SCALER
3V3_PLL
3V3_ADC
3V3_DVI
3V3_IO
3V3_LBADC
3V3_LVDSA
3V3_LVDSB
3V3_LVDS
+2V5_DDR
+1V8
+1V8_ADC
+1V8_DVI
+1V8_CORE
B9 SCALER INTERFACE
B10 SDRAM
FSVREF
B11 FLASH / CONTROL
B12 HDMI (Not for EUR Sets)
+5VHDMI
B13 MUX-SYNC INTERFACE
B14 DIGITAL IO (Only for EUR Sets)
DDC_5V
DVI_5V
B15 SCART ANALOGUE IO (Only for EUR Sets)
B17 SIDE CONNECTORS
B18 ADC
+5VSWIA
+3V3SWB
B19 COLUMBUS
+3V3SWA
B20 EPLD
B21 EPLD
1V5
1V5-PLL
1V5-INT
LVDS_VCC
B22 DIGITAL IO (Not for EUR Sets)
HDMI
VGA
DDC_5V
B23 CINCH ANALOGUE (Not for EUR Sets)
C AUDIO AMPLIFIER
+19.16V
+19.16VS1
+19.16VS2
VDDUPAMP
D SIDE I/O
J LED PANEL
+5V2-STBY

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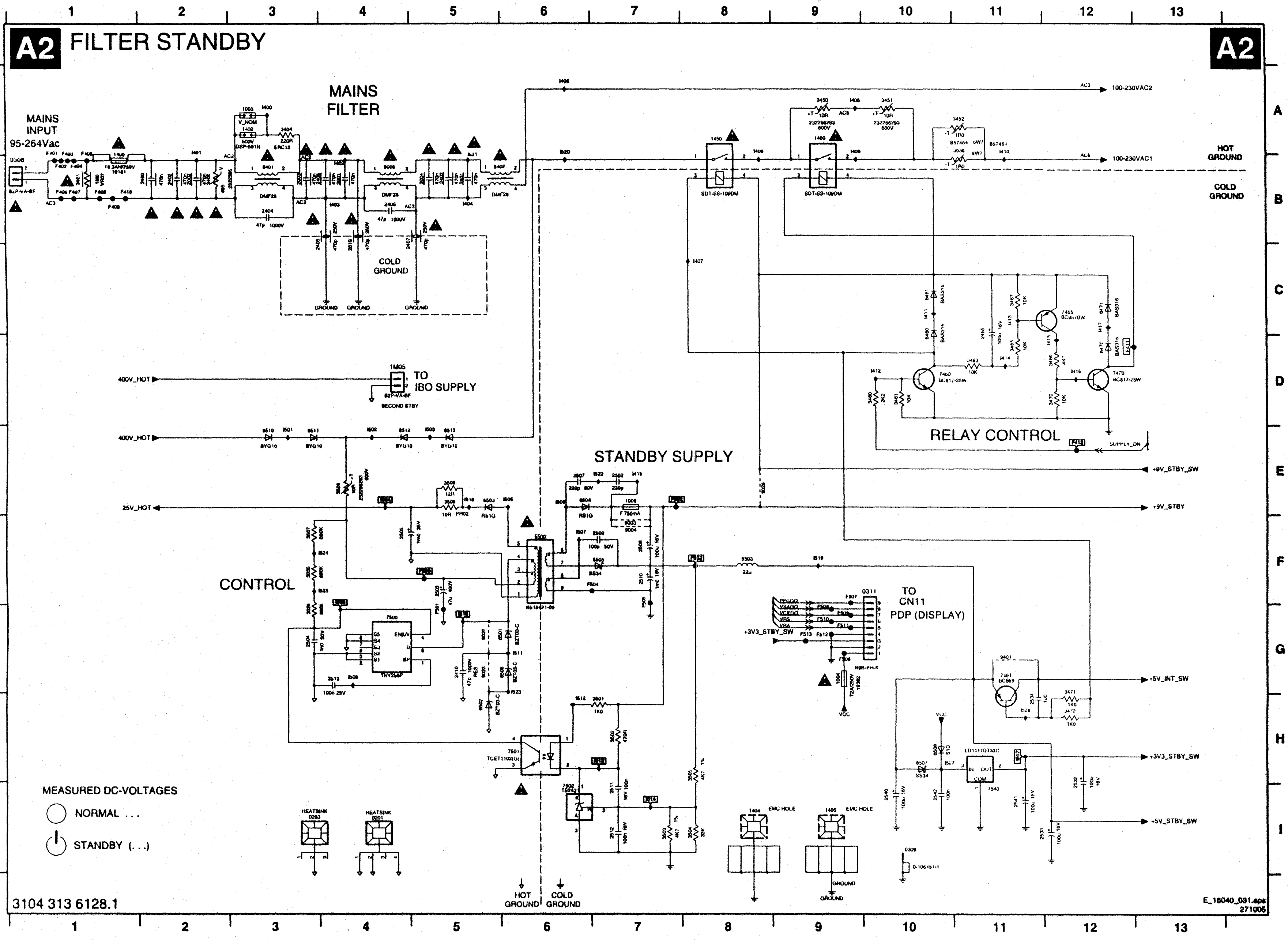
160605

7. Circuit Diagrams and PWB Layouts

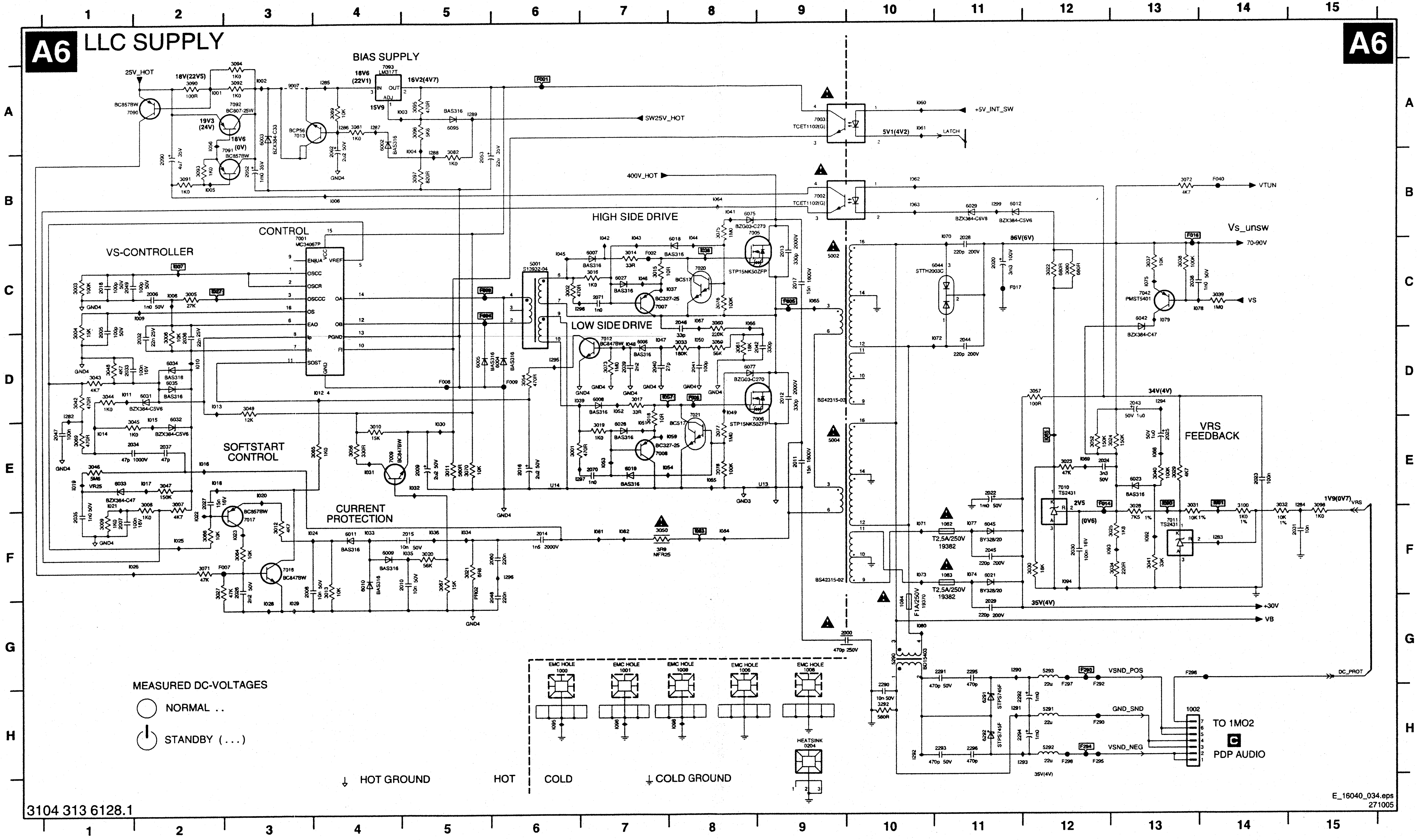
PDP FHP Supply: Filter Standby


A2 FILTER STANDBY
A2
MAINS INPUT
95-264Vac
MAINS FILTER
COLD GROUND
TO IBO SUPPLY
400V_HOT
400V_HOT
25V_HOT
STANDBY SUPPLY
CONTROL
RELAY CONTROL
TO CN11 PDP (DISPLAY)
100-230VAC2
100-230VAC1
HOT GROUND
COLD GROUND
+9V_STBY_SW
+9V_STBY
+5V_INT_SW
+3V3_STBY_SW
+5V_STBY_SW
SUPPLY_ON
+3V3_STBY_SW
EMC HOLE
HEATSINK
HOT GROUND
COLD GROUND
MEASURED DC-VOLTAGES
NORMAL ...
STANDBY (...)
3104 313 6128.1
E_15040_031.eps
271005
A
B
C
D
E
F
G
H
I
1
2
3
4
5
6
7
8
9
10
11
12
13

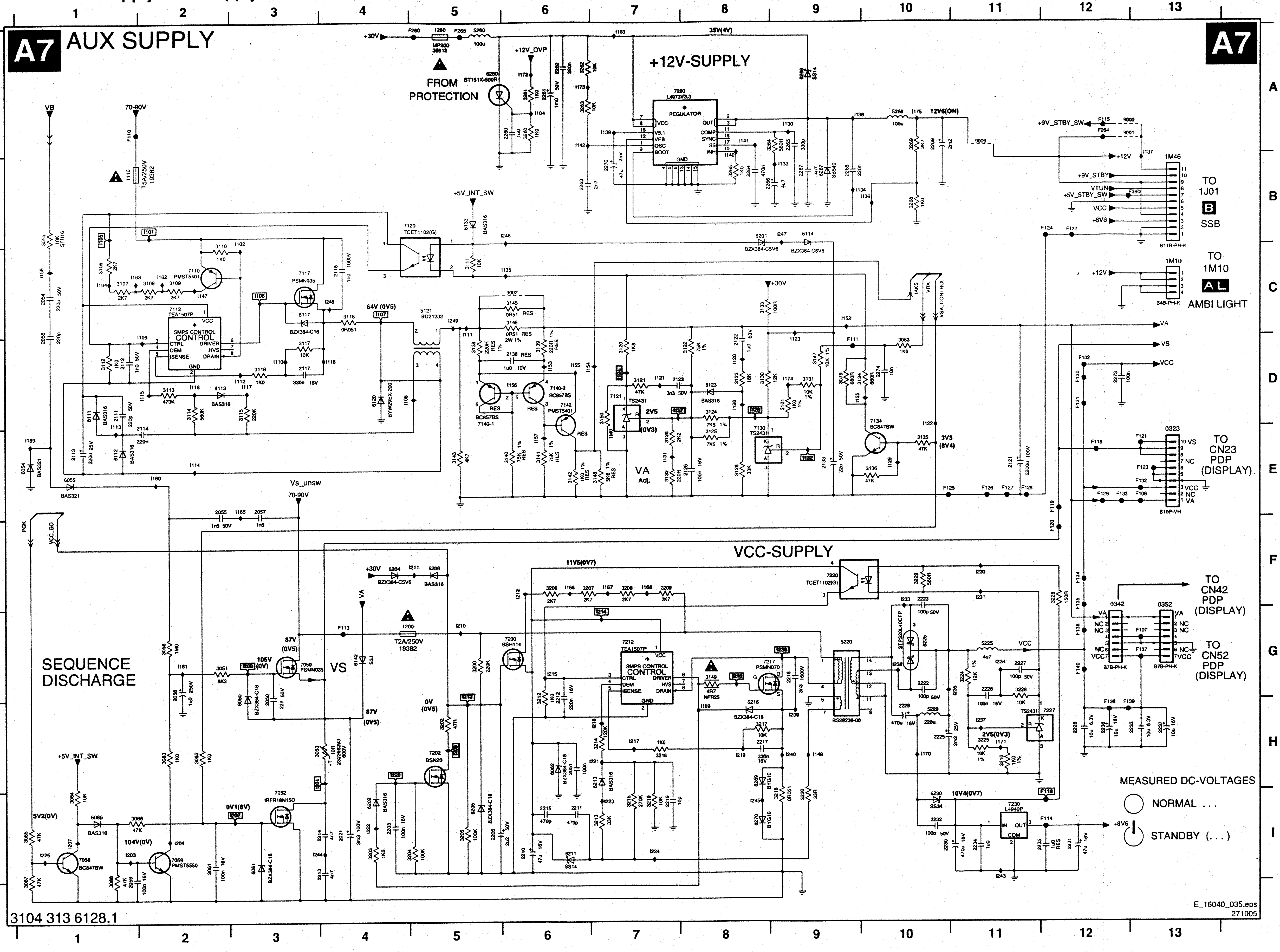
0201	I4
0203	I3
0308	B1
0309	I10
0311	F10
1003	A3
1004	G9
1005	E7
1400	B1
1402	A3
1404	I8
1405	I9
1450	A8
1460	A9
1M05	D4
2001	B4
2002	B2
2003	B3
2004	B5
2019	C4
2400	B2
2401	B5
2402	B2
2403	B5
2404	B3
2405	C4
2406	B4
2407	C5
2408	B4
2410	G5
2465	C11
2502	E7
2503	F5
2504	G3
2505	F4
2507	E6
2508	F7
2509	F7
2510	F7
2511	I7
2512	I7
2513	G4
2532	H12
2533	I11
2534	H11
2540	I10
2541	I11
2542	I10
3026	G3
3035	F3
3036	A11
3400	B2
3401	B1
3404	A3
3450	A9
3451	A10
3452	A11
3460	D10
3461	D10
3463	D11
3465	D11
3467	C11
3469	D12
3470	D12
3471	G12
3472	H12
3501	H7
3502	H7
3503	I7
3504	I8
3505	H8
3506	E4
3507	F3
3508	E5
3509	E5
5005	B4
5401	B3
5402	B5
5500	F6
5503	F8
6460	C10
6461	C10
6470	D12
6471	C12
6501	G6
6502	H5
6503	E5
6504	E6
6505	F7
6506	G6
6507	H10
6508	H10
6510	E3
6511	E3
6512	E4
6513	E5
7460	D10
7461	G11
7465	C12
7470	D12
7500	G4
7501	H6
7502	I6
7540	I11
9003	F7
9004	F7
9023	G5
9025	G5
9028	E8
9401	G11
F401	A1
F402	B1
F403	B1
F404	B1
F405	B1
F406	B1
F407	B1
F408	B1
F409	B1
F410	B1
F411	D12
F412	E12
F500	F5
F501	G5
F502	E7
F503	F8
F504	F7
F505	F7
F506	G9
F507	F9
F508	G9
F509	G9
F510	G9
F511	G9
F512	G9
F513	G9
I400	A3
I401	A2
I402	B4
I403	B4
I404	B5
I405	A6
I406	A8
I407	C8
I408	A9
I409	A9
I410	A11
I411	C10
I412	D10
I413	C11
I414	D11
I415	D12
I416	D12
I417	C12
I418	E7
I501	E3
I502	E4
I503	E5
I504	E4
I505	E6
I506	E6
I507	F6
I508	F4
I509	G4
I510	G5
I511	G6
I512	H6
I513	H7
I514	I7
I517	H11
I518	E5
I519	F9
I520	A6
I521	A5
I522	E7
I523	G6
I524	F4
I525	F4
I526	H11
I527	H10

PDP FHP Supply: LLC Supply

U13	E9
U14	E6
0204	H9
1000	G6
1001	G7
1002	H14
1006	G8
1008	G9
1009	G8
1082	F11
1083	F11
1084	G10
2000	G9
2005	C1
2006	C2
2007	F1
2008	F3
2009	E5
2010	F5
2011	E9
2012	D9
2013	C9
2014	F6
2015	F5
2016	E6
2017	C9
2018	C1
2020	C11
2022	E11
2023	E14
2024	E12
2025	E13
2026	F3
2027	E2
2028	C11
2029	G11
2030	F12
2031	F15
2032	D2
2033	D1
2034	E1
2035	F1
2036	D2
2037	E2
2038	C13
2039	D7
2040	D7
2041	D8
2042	D9
2043	D13
2044	D11
2045	F11
2046	C8
2047	E1
2048	F6
2049	C1
2052	B3
2053	B5
2060	F6
2062	A4
2070	E7
2071	C7
2090	B2
2290	H10
2291	G11
2292	H11
2293	H11
2294	H11
2295	G11
2296	H11
3001	E6
3002	C6
3003	C1
3004	C1
3005	C2
3006	D2
3007	E2
3008	E2
3009	F1
3010	E4
3011	E5
3012	F3
3013	F4
3014	C7
3015	C7
3016	C7
3017	D7
3018	D7
3019	E7
3020	F5
3021	F5
3022	C12
3023	E12
3024	E13
3025	F13
3027	F2
3028	F13
3029	E13
3030	F12
3031	F13
3032	F14
3033	D8
3034	F13
3037	C13
3038	C13
3039	C14
3040	E13
3041	F13
3042	D1
3043	D1
3044	D1
3045	E2
3046	E1
3047	E2
3048	D1
3049	D3
3050	F7
3052	E12
3054	D6
3056	E4
3057	D12
3059	D8
3060	C8
3061	D8
3064	F3
3065	E4
3066	F2
3067	F5
3069	E1
3070	E5
3071	F2
3072	B13
3073	D7
3075	B8
3076	C8
3077	E8
3078	E8
3080	C12
3081	A4
3082	B5
3089	A4
3090	A2
3091	B2
3092	A3
3093	B2
3094	A3
3095	A5
3096	A5
3097	B5
3098	F15
3100	F14
3292	H10
5001	C6
5002	C9
5004	E9
5290	G10
5291	H12
5292	H12
5293	G12
6002	A4
6003	A3
6004	D6
6005	D5
6006	D7
6007	C7
6008	D7
6009	F4
6010	F4
6011	F4
6012	B11
6018	C8
6019	E7
6021	F11
6023	E13
6027	C7
6028	E7
6029	B11
6031	D2
6032	D2
6033	E1
6034	D2
6035	D2
6042	C13
6044	C11
6045	F11
6075	B8
6077	D8
6095	A5
6291	H11
6292	H11
7001	B3
7002	B9
7003	A9
7005	B8
7006	E8
7007	C7
7008	E7
7009	E4
7010	E12
7011	F13
7012	D7
7013	A3
7017	F3
7018	F3
7020	C8
7021	D8
7042	C13
7090	A2
7091	A3
7092	A3
7093	A4
9007	A3
F001	A6
F002	C7
F003	C5
F004	C5
F005	C9
F006	D8
F007	F3
F008	D5
F009	D6
F014	E12
F016	B13
F017	C11
F040	B14
F290	H12
F292	H12
F293	G12
F294	H12
F295	H12
F296	G13
F297	H12
F298	H12
I001	A2
I002	A3
I003	A5
I004	A5
I005	B2
I006	B4
I007	C2
I008	C2
I009	C2
I010	D2
I011	D1
I012	D4
I013	D2
I014	E1
I015	D2
I016	E2
I017	E2
I018	E2
I019	E1
I020	E3
I021	E1
I022	F2
I023	F3
I024	F3
I025	F2
I026	F1
I027	C2
I028	G3
I029	G3
I030	E5
I031	E4
I032	E5
I033	F4
I034	F5
I035	F5
I036	F5
I037	C8
I038	C8
I039	D6
I041	B8
I042	B7
I043	B7
I044	B8
I045	C6
I046	C7
I047	D7
I048	D7
I049	D8
I050	D8
I051	E7
I052	D7
I053	E7
I054	E7
I055	E8
I056	A2
I057	D7
I059	E8
I060	A10
I061	A10
I062	B10
I063	B10
I064	B8
I065	C9
I066	C8
I067	C8
I070	B11
I071	F10
I072	D11
I073	F10
I074	F11
I075	C13
I077	F11
I078	C13
I079	C13
I080	G10
I081	F7
I082	F7
I083	F8
I084	F8
I085	E12
I088	E13
I089	E12
I090	E13
I091	E14
I092	F13
I093	F12
I094	F12
I095	H6
I096	H7
I098	H8
I282	D1
I283	F14
I284	E15
I285	A4
I286	A4
I287	A4
I288	B5
I289	A5
I290	G11
I291	H11
I292	H10
I293	H11
I294	D13
I295	D6
I296	F6
I297	E7
I298	C7
I299	B11


A6
LLC SUPPLY
BIAS SUPPLY
25V_HOT
18V(22V5)
19V3 (24V)
18V6 (0V)
18V6 (22V1)
16V2(4V7)
15V9
LM317T
SW25V_HOT
400V_HOT
TCET1102(G)
+5V_INT_SW
5V1(4V2)
LATCH
VTUN
Vs_unsw
70-90V
VS
86V(6V)
HIGH SIDE DRIVE
LOW SIDE DRIVE
CONTROL
MC34067P
VS-CONTROLLER
SOFTSTART CONTROL
CURRENT PROTECTION
STP15NK50ZFP
BZG03-C270
BS42315-02
BS42315-03
STTH2003C
PMST5401
34V(4V)
VRS FEEDBACK
TS2431
2V5
(0V6)
1V9(0V7)
VRS
T2,5A/250V 19382
F1A/250V 19370
BY328/20
35V(4V)
+30V
VB
DC_PROT
VSND_POS
GND_SND
VSND_NEG
TO 1M02
C
PDP AUDIO
EMC HOLE
HEATSINK
MEASURED DC-VOLTAGES
NORMAL ..
STANDBY (...)
HOT GROUND
HOT
COLD
COLD GROUND
3104 313 6128.1
E_16040_034.eps
271005

PDP FHP Supply: AUX Supply


A7
AUX SUPPLY
+12V-SUPPLY
FROM PROTECTION
VCC-SUPPLY
SEQUENCE DISCHARGE
VB
70-90V
Vs_unsw
+5V_INT_SW
+30V
12V6(ON)
35V(4V)
64V (0V5)
TO 1J01
B
SSB
TO 1M10
AL
AMBI LIGHT
TO CN23 PDP (DISPLAY)
TO CN42 PDP (DISPLAY)
TO CN52 PDP (DISPLAY)
+9V_STBY_SW
+12V
+9V_STBY
VTUN
+5V_STBY_SW
VCC
+8V6
VA
VS
VA Adj.
11V5(0V7)
10V4(0V7)
3V3 (8V4)
SMPS CONTROL
REGULATOR
MEASURED DC-VOLTAGES
NORMAL ...
STANDBY (...)
1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I
3104 313 6128.1
E_16040_035.eps
271005

0323	E13
0342	G12
0352	G13
1110	B1
1200	G4
1260	A5
1M10	C13
1M46	B13
2021	I4
2050	G3
2051	H6
2054	C1
2055	E2
2056	C1
2057	E3
2058	G2
2059	I1
2061	I2
2111	D1
2112	D1
2113	E1
2114	E2
2117	D3
2118	C4
2121	E11
2122	D8
2123	D7
2126	E8
2133	E9
2138	D6
2203	I4
2205	I5
2210	I6
2211	I6
2212	G6
2213	I4
2214	I4
2215	I6
2217	H8
2218	G9
2219	I7
2222	G10
2223	F10
2225	H10
2226	G11
2227	G11
2228	H12
2229	H10
2230	I10
2231	I12
2232	I10
2233	H13
2234	I11
2235	I12
2236	H12
2237	H13
2260	A6
2261	A6
2262	A6
2263	B6
2264	B8
2265	A9
2266	B8
2267	B9
2268	B9
2269	A10
2270	B7
2273	D12
2274	D10
3051	G2
3053	H3
3055	B1
3058	G2
3062	H2
3063	D10
3079	D9
3083	H2
3084	I1
3085	I1
3086	I1
3087	I1
3088	I1
3101	D9
3106	C1
3107	C1
3108	C2
3109	C2
3110	C2
3111	C5
3112	D1
3113	D2
3114	D2
3115	D3
3116	D3
3117	D3
3118	C4
3120	D7
3121	D7
3122	D8
3123	D8
3124	D8
3125	E8
3126	E7
3128	E8
3130	D8
3131	D9
3132	E7
3133	C8
3134	D10
3135	E10
3136	E10
3138	D5
3139	D6
3140	E6
3141	E6
3142	E6
3143	E5
3145	C6
3146	C6
3147	D9
3148	E7
3149	G8
3150	D7
3151	B10
3152	B11
3153	B11
3154	C11
3155	C11
3156	B11
3157	D11
3158	D11
3200	G5
3202	H5
3203	I4
3204	I5
3205	I5
3206	F6
3207	F6
3208	F7
3209	F7
3210	H11
3212	G6
3213	I7
3214	H7
3215	I7
3216	H7
3217	H8
3218	I9
3219	I7
3220	I9
3224	G11
3225	H11
3226	G11
3228	F12
3229	F10
3260	A6
3261	A6
3262	A6
3263	A6
3264	A9
3265	B8
3268	B10
3269	A10
5121	C5
5220	G9
5225	G11
5229	H10
5260	A5
5268	A10
6050	G3
6054	E1
6055	E1
6061	I3
6062	H6
6086	I1
6111	D1
6112	E1
6113	D2
6114	B9
6117	C3
6120	D4
6123	D8
6133	B5
6142	G4
6201	B8
6202	I4
6204	F4
6205	I5
6206	F5
6211	I6
6213	H7
6216	H8
6225	G10
6230	I10
6260	A5
6267	B9
6268	A9
6269	H8
6270	I8
6271	B10
7050	G3
7052	I3
7058	I1
7059	I2
7060-1	B11
7060-2	B11
7061	C11
7110	C2
7112	C2
7117	C3
7120	B5
7121	D7
7130	E8
7134	D10
7140-1	D5
7140-2	D6
7142	D6
7200	G6
7202	H5
7212	G7
7217	G8
7220	F9
7227	H12
7230	I11
7260	A8
9000	A12
9001	A12
9002	C6
9009	A11
F102	D12
F106	E13
F107	G13
F110	A1
F111	D9
F113	G4
F114	I12
F115	A12
F116	I12
F118	E12
F119	E12
F120	F12
F121	E13
F122	B12
F123	E13
F124	B12
F125	E10
F126	E11
F127	E11
F128	E11
F129	E12
F130	D12
F131	D12
F132	E13
F133	E12
F134	F12
F135	F12
F136	G12
F137	G13
F138	H12
F139	H12
F140	G12
F260	A5
F264	A12
F265	A5
F380	B13
I101	B2
I102	B3
I103	A7
I104	A6
I105	B1
I106	C3
I107	C4
I108	D4
I109	C2
I110	D3
I111	C5
I112	D3
I113	D1
I114	E2
I115	D2
I116	D2
I117	D3
I118	D4
I120	D8
I121	D7
I122	D10
I123	D9
I124	D7
I125	D9
I126	D8
I127	D7
I128	D8
I129	E10
I130	A9
I131	E7
I132	E9
I133	B9
I134	B10
I135	C6
I136	B10
I137	B13
I138	A9
I139	A7
I140	B8
I141	A8
I142	A6
I147	C2
I148	H9
I152	C9
I153	D6
I154	D6
I155	D6
I156	D6
I157	E6
I158	C1
I159	E1
I160	E2
I161	G2
I162	C2
I163	C1
I164	C1
I165	E3
I166	F6
I167	F7
I168	F7
I169	H8
I170	H10
I171	H11
I172	A6
I173	A6
I174	D9
I175	A10
I176	B10
I177	B11
I178	B11
I179	B11
I180	B11
I181	C11
I200	G3
I201	H3
I202	I3
I203	I1
I204	I2
I207	I1
I208	H5
I209	H9
I210	G5
I211	F5
I212	F6
I213	G5
I214	G7
I215	G6
I216	G8
I217	H7
I218	H7
I219	H8
I220	H4
I221	H7
I222	I4
I223	I7
I224	I7
I225	I1
I230	F11
I231	F11
I233	F10
I234	G11
I235	G11
I236	G9
I237	H11
I238	G10
I240	H9
I243	I11
I244	I3
I245	I8
I246	B6
I247	B9
I248	C4
I249	C5

Layout PDP FHP Supply (Overview Top Side)

0201	B4
0203	D3
0204	D7
0308	G1
0309	G1
0311	G3
0323	F8
0342	F8
0352	E8
1002	A8
1003	F1
1004	F8
1005	G4
1082	C8
1083	B8
1084	A8
1110	D6
1200	E6
1260	F8
1400	F1
1402	F1
1450	F4
1460	E4
1M03	G5
1M05	G3
1M10	A8
1M46	G8
2000	A5
2001	E2
2002	G1
2003	E2
2004	E2
2005	A4
2006	A4
2007	A5
2008	A4
2009	A4
2010	A3
2011	B5
2012	A5
2013	C5
2014	B5
2015	A4
2016	A4
2017	C5
2018	A4
2019	E1
2020	B8
2021	D8
2022	B8
2023	E5
2024	E5
2025	E8
2026	A4
2027	A4
2028	C8
2029	C8
2030	E5
2031	E5
2032	A4
2033	A4
2034	B5
2035	A5
2036	A4
2037	B5
2038	D8
2039	B3
2040	B3
2041	B3
2042	B4
2043	E8
2044	C8
2045	C8
2046	B3
2047	A4
2048	A5
2049	A4
2050	E8
2051	F6
2052	B4
2053	A4
2054	D8
2055	D8
2056	D8
2057	D8
2058	C8
2059	D8
2060	A5
2061	D8
2062	A4
2070	B4
2071	B4
2090	B3
2111	D5
2112	D5
2113	D5
2114	D5
2117	D6
2118	C6
2121	C8
2122	E6
2123	D5
2126	D6
2133	E5
2138	E6
2203	F5
2205	F5
2210	F6
2211	F6
2212	F6
2213	D8
2214	D8
2215	F6
2217	F6
2218	E6
2219	F5
2222	F8
2223	F8
2225	F8
2226	E8
2227	E8
2228	E8
2229	E6
2230	E6
2231	E7
2232	E6
2233	E8
2234	E8
2235	E8
2236	E8
2237	E8
2260	F8
2261	G8
2262	G8
2263	G8
2264	G8
2265	G8
2266	G8
2267	G8
2268	G8
2269	F8
2270	G8
2273	G8
2274	D6
2290	B8
2291	B8
2292	A8
2293	C8
2294	A8
2295	B8
2296	C8
2304	G7
2305	G7
2306	G7
2322	G7
2324	G7
2343	G6
2350	G7
2352	G6
2364	G6
2366	G6
2376	G6
2377	G6
2381	G6
2385	G6
2386	G4
2387	G4
2388	G6
2397	G4
2398	G7
2400	G1
2401	E1
2402	G1
2403	E1
2404	F2
2405	E1
2406	E2
2407	D1
2408	E2
2410	F3
2465	E5
2502	F5
2503	F4
2504	G4
2505	B3
2507	F5
2508	F5
2509	F5
2510	F5
2511	G4
2512	G4
2513	G4
2532	G3
2533	G4
2534	G5
2540	G5
2541	G5
2542	F5
2600	E2
2601	D2
2602	B2
2603	B1
2604	C1
2605	C1
2608	A2
2610	C2
2611	D2
2612	B2
2613	B2
2614	B2
2616	D4
2617	C4
2640	A2
2642	A2
2651	A2
2653	A2
2654	B2
2655	A3
2656	B3
2660	A2
2661	A1
2662	A3
2663	A2
2664	A2
2665	B3
2666	A2
2670	A3
2671	A3
2672	A2
2673	B2
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3018	B4
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3029	E5
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3032	E5
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3038	D8
3039	D8
3040	E5
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3045	A4
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3066	A4
3067	A4
3068	G5
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3070	A4
3071	A4
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3074	G6
3075	C4
3076	C4
3077	A5
3078	B4
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9003	F4
9004	G4
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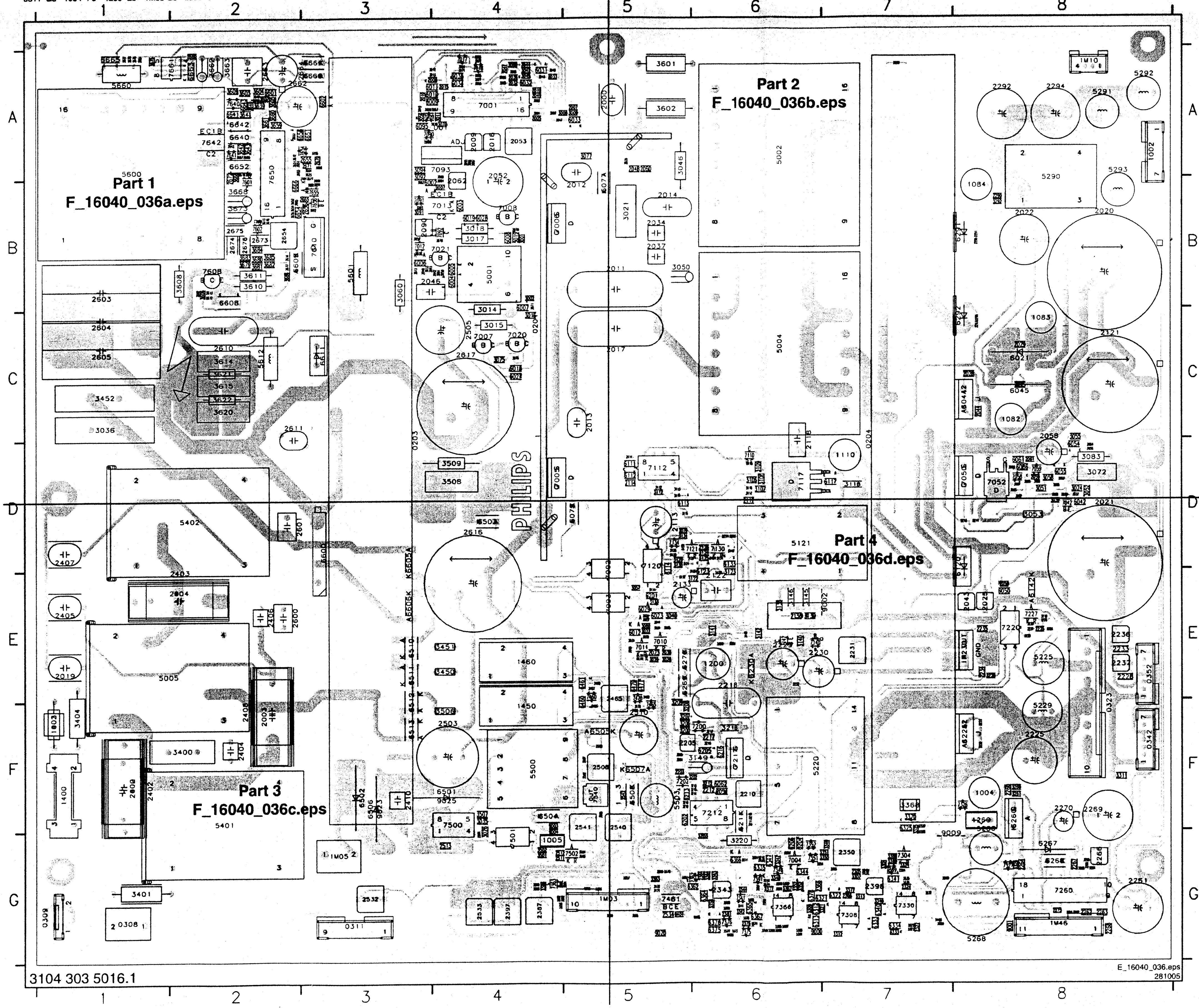
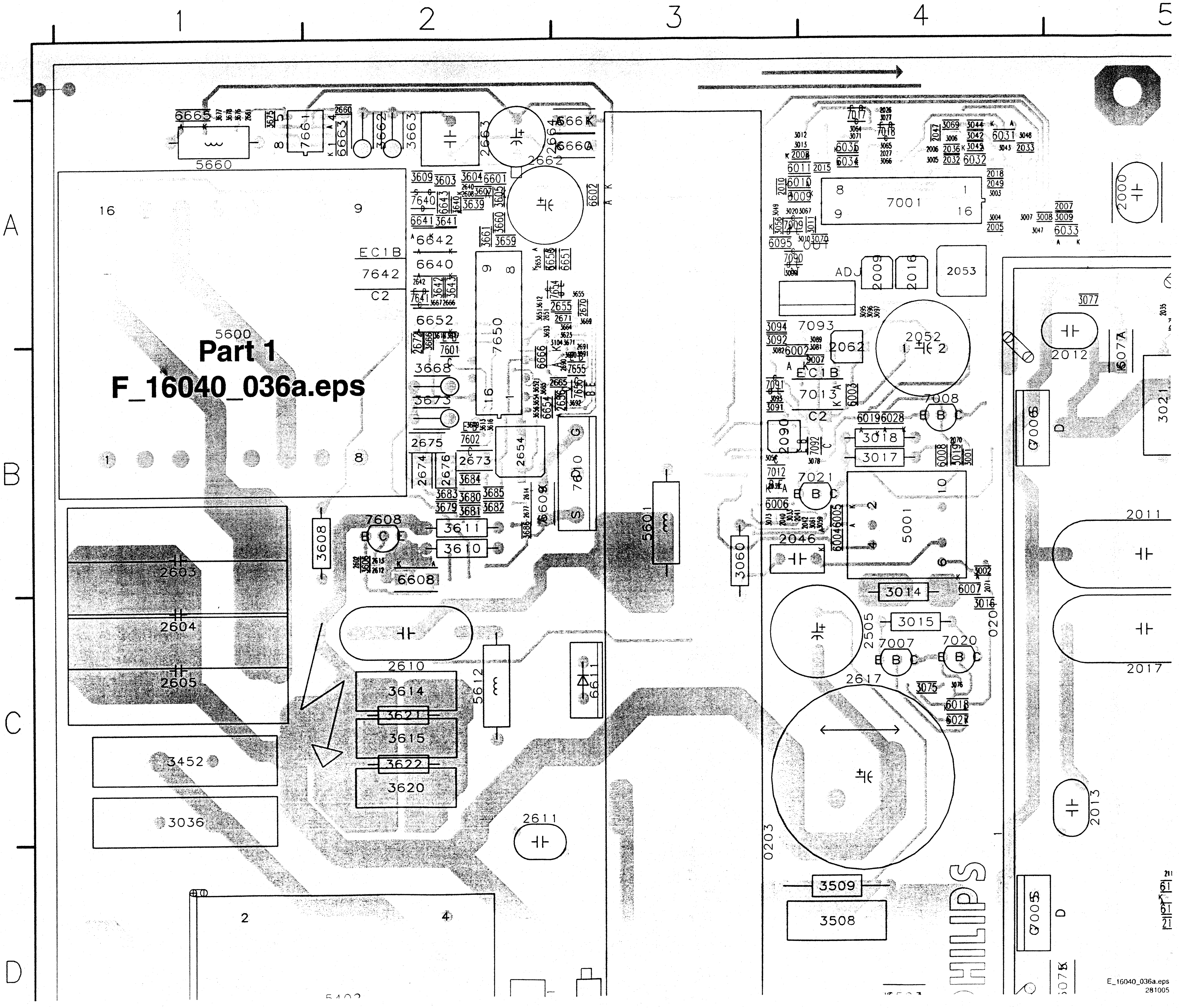


Layout PDP FHP Supply (Part 1 Top Side)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3663
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6660
2662
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1
8
EC1B
7642
C2
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3603
3604
6601
7640
6643
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6641
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3668
3673
7650
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7608
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7018
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6010
6009
7001
7009
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ADJ
2009
2016
2053
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6033
2000
2007
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2012
6077
3021
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7093
3092
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2062
2052
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6003
7008
C2
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3018
3017
6008
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6006
6004
6005
2046
3014
6007
3016
2505
3015
7007
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2617
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6018
6027
2011
2017
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7005
PHILIPS
5402
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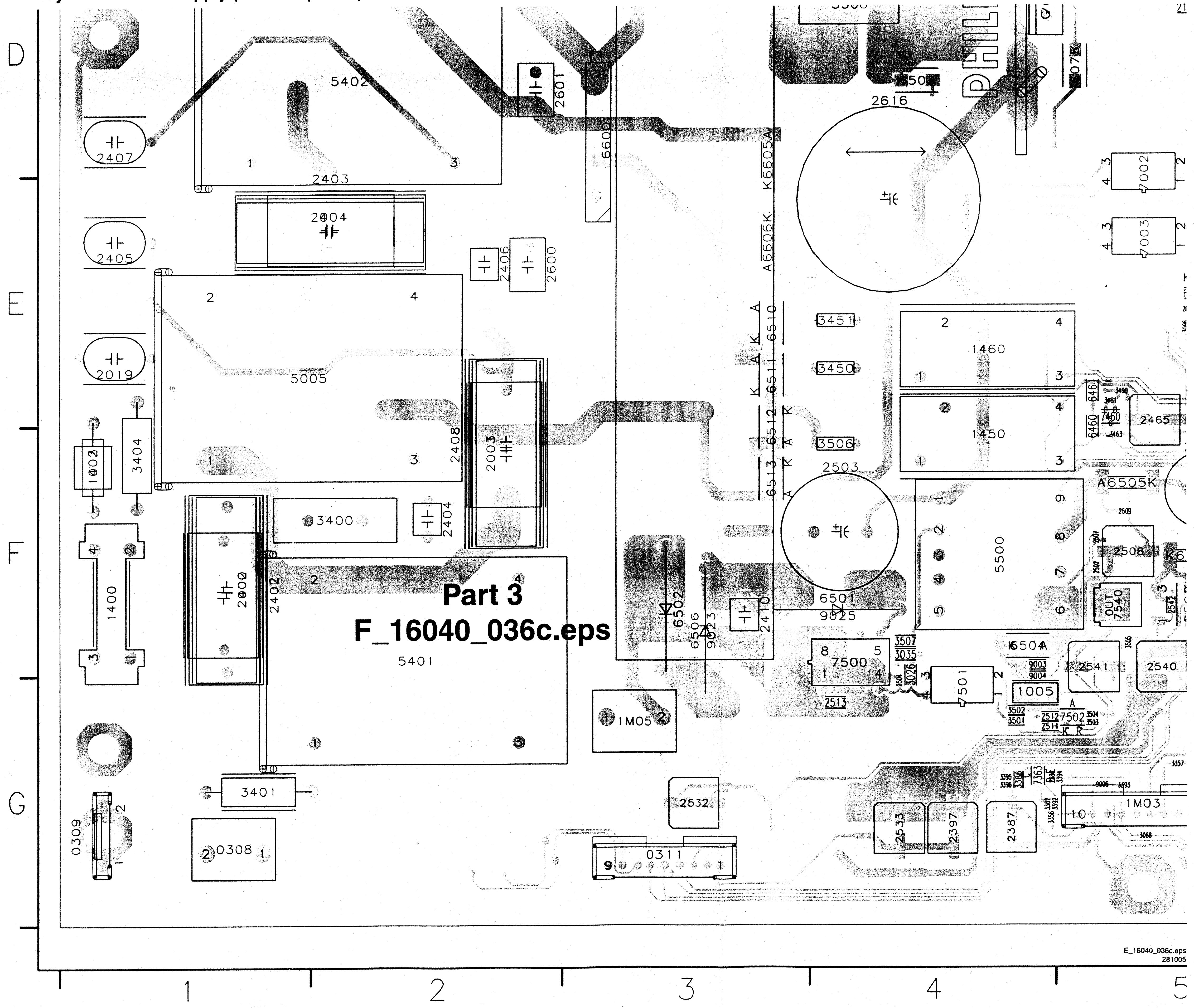
281005

Layout PDP FHP Supply (Part 3 Top Side)


D
E
F
G
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2600
2019
5005
2408
2003
1002
3404
3400
2404
1400
2002
2402
5401
3401
0309
0308
0311
2532
1M05
6502
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9025
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A6606K
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3450
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7002
7003
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6461
A6505K
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7500
7501
6504A
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1005
7502
2513
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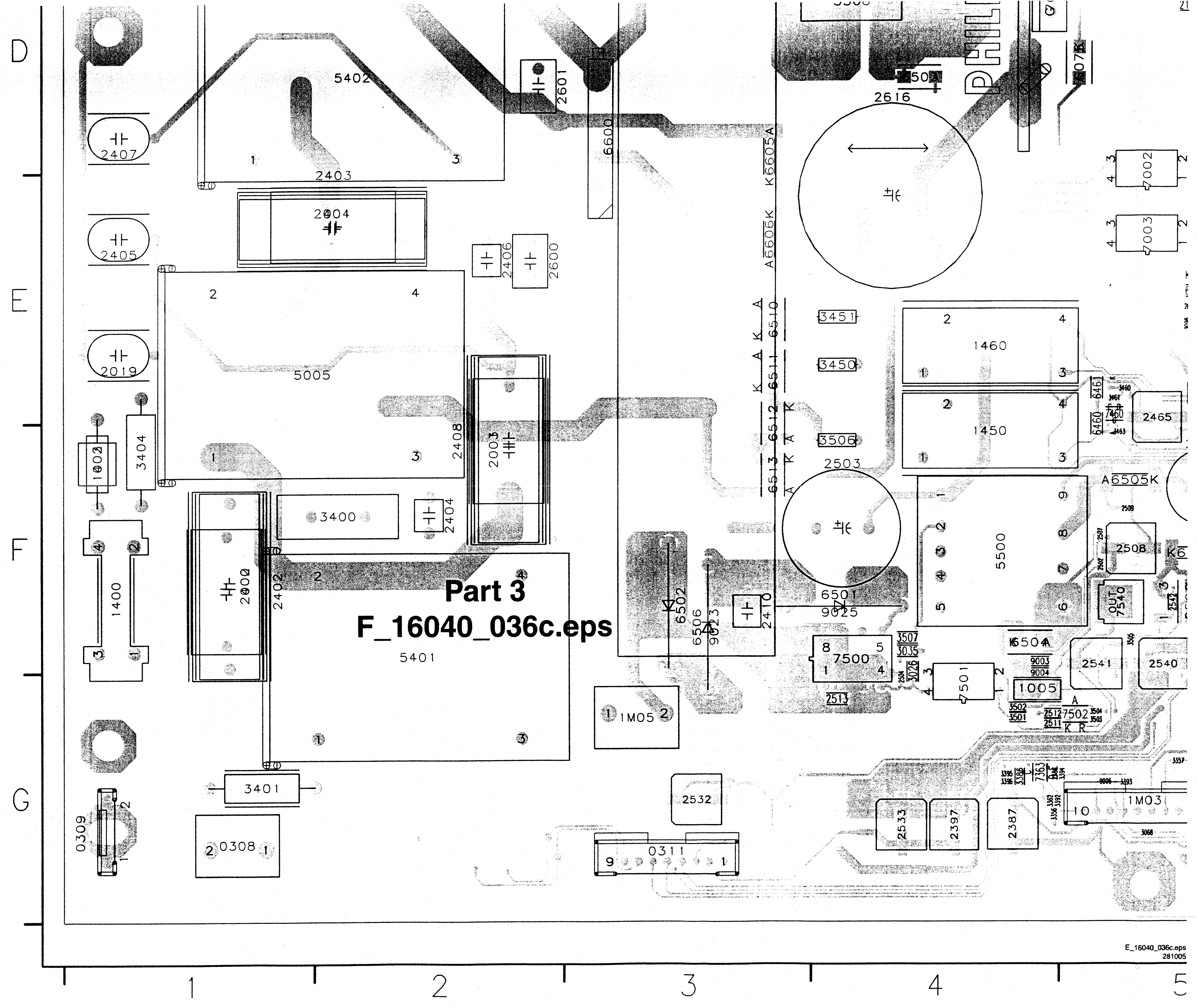
Part 3
F_16040_036c.eps
E_16040_036c.eps
281005

Layout PDP FHP Supply (Part 3 Top Side)


D
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F
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Part 3
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2406
2600
2601
6600
K6605A
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2616
7002
7003
5005
2019
2408
2003
1003
3404
3451
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2503
2465
A6505K
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2002
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1005
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7502
1M05
2513
3401
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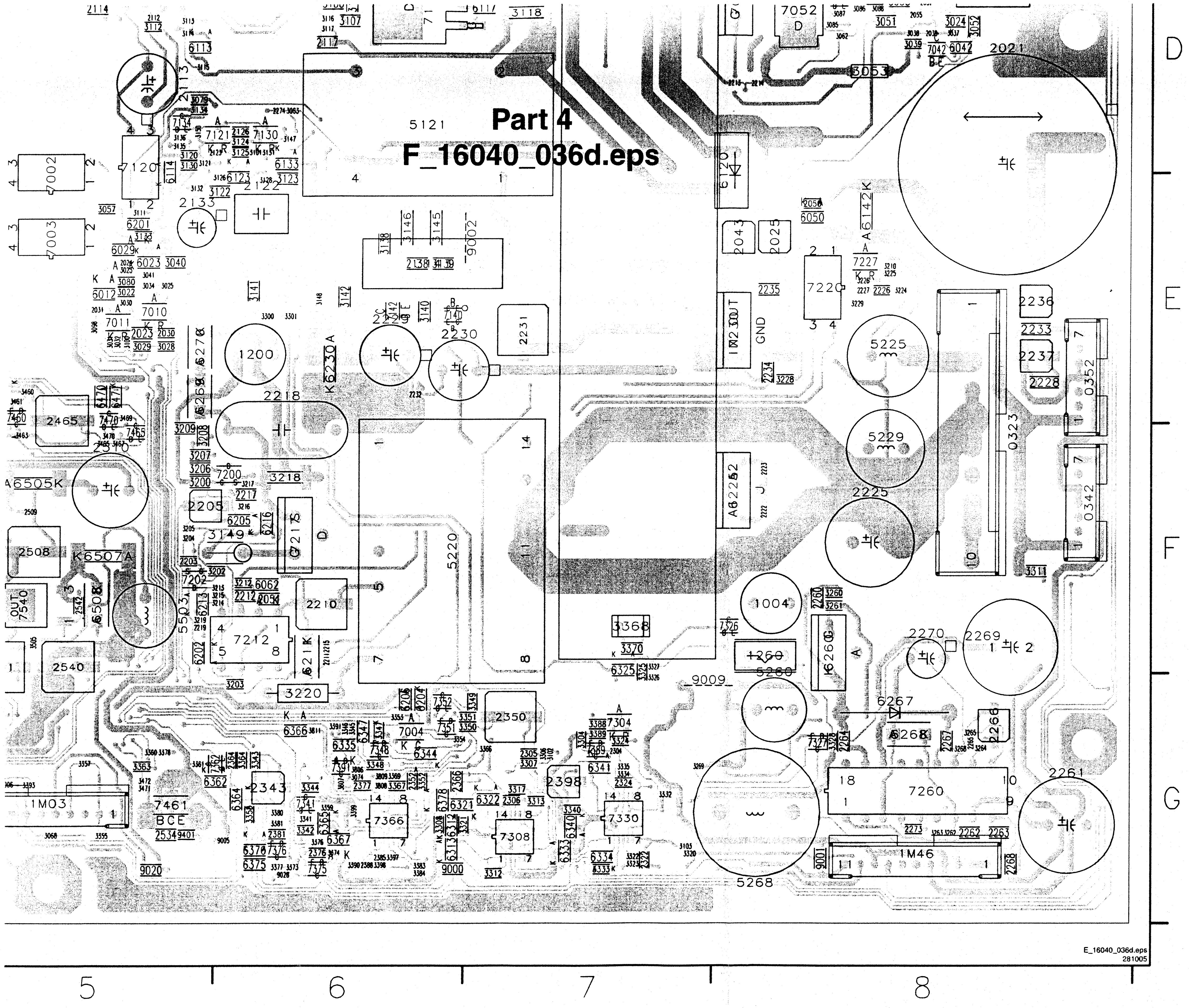
0308
0311

E_16040_036c.eps
281005

Layout PDP FHP Supply (Part 4 Top Side)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2508
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7212
3220
2205
2210
2350
7366
7308
7330
1M03
7461
7260
1M46
5268
5225
5229
2225
1004
2269
2270
2261
6267
6268
0323
0352
0342
2021
7052
3053
6120
7220
2236
2233
2237
2228
2043
2025
9009
9020
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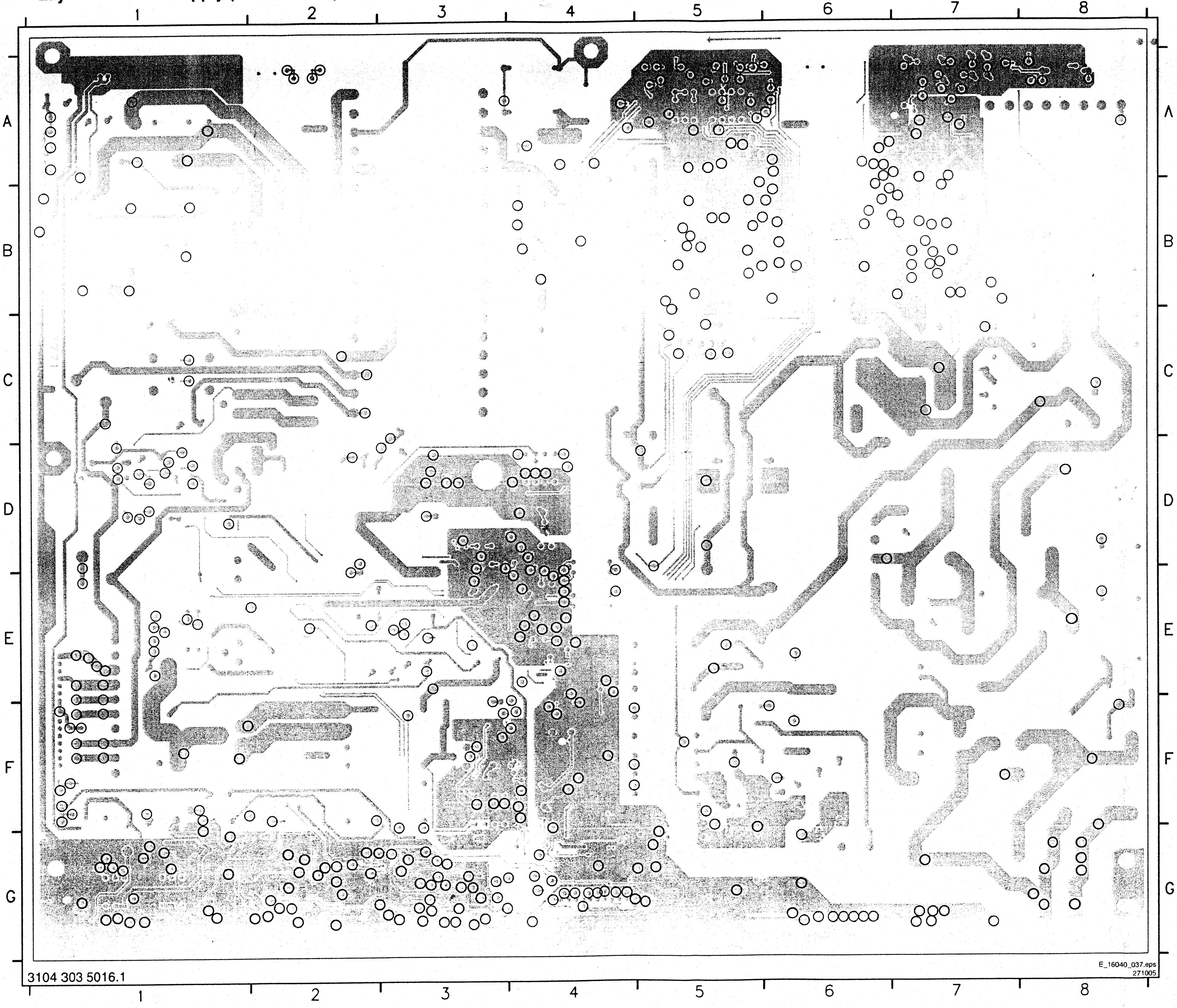
9001
D
E
F
G
5
6
7
8

E_16040_036d.eps
281005

Layout PDP FHP Supply (Bottom View)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A
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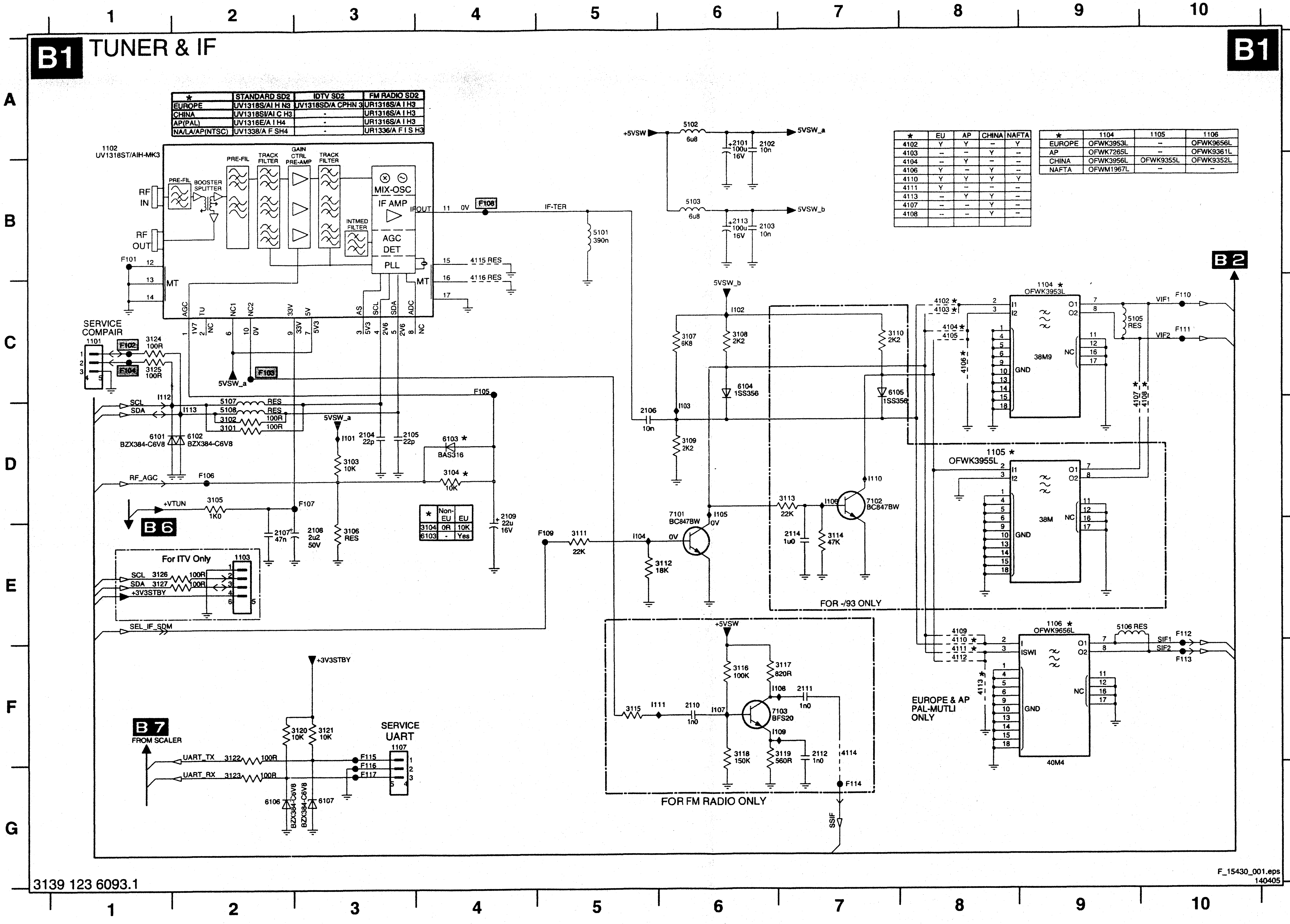
C
D
E
F
G
3104 303 5016.1
E_16040_037.eps
271005

SSB: Tuner and VIF


B1 TUNER & IF
B1
B2
B6
B7
FROM SCALER
1102
UV1318ST/AIH-MK3
RF IN
RF OUT
PRE-FIL
BOOSTER SPLITTER
PRE-FIL
TRACK FILTER
GAIN CTRL PRE-AMP
TRACK FILTER
INTMED FILTER
MIX-OSC
IF AMP
AGC DET
PLL
IFOUT
MT
AGC
TU
NC1
NC2
33V
5V
AS
SCL
SDA
ADC
F101
F102
F103
F104
F105
F106
F107
F108
F109
F110
F111
F112
F113
F114
F115
F116
F117
IF-TER
5101 390n
4115 RES
4116 RES
SERVICE COMPAIR
1101
3124 100R
3125 100R
SCL
SDA
5107 RES
5108 RES
3102 100R
3101 100R
6101 BZX384-C6V8
6102 BZX384-C6V8
5VSW_a
2104 22p
2105 22p
6103 BAS316
3103 10K
3104 10K
RF_AGC
+VTUN
3105 1K0
2107 47n
2108 2u2 50V
3106 RES
2109 22u 16V
For ITV Only
1103
SCL 3126 100R
SDA 3127 100R
+3V3STBY
SEL_IF_SDM
+5VSW
5102 6u8
5VSW_a
2101 100u 16V
2102 10n
5103 6u8
5VSW_b
2113 100u 16V
2103 10n
5VSW_b
3107 6K8
3108 2K2
6104 1SS356
2106 10n
3109 2K2
3110 2K2
6105 1SS356
7101 BC847BW
3111 22K
3112 18K
3113 22K
2114 1u0
3114 47K
7102 BC847BW
FOR -/93 ONLY
1104 OFWK3953L
4102
4103
4104
4105
4106
38M9
GND
NC
5105 RES
VIF1
VIF2
4107
4108
1105 OFWK3955L
38M
1106 OFWK9656L
4109
4110
4111
4112
4113
ISWI
40M4
5106 RES
SIF1
SIF2
EUROPE & AP PAL-MUTLI ONLY
3116 100K
3117 820R
3115
2110 1n0
2111 1n0
7103 BFS20
3118 150K
3119 560R
2112 1n0
4114
SSIF
FOR FM RADIO ONLY
+3V3STBY
3120 10K
3121 10K
UART_TX 3122 100R
UART_RX 3123 100R
6106 BZX384-C6V8
6107 BZX384-C6V8
SERVICE UART
1107
3139 123 6093.1
F_15430_001.eps 140405

★	STANDARD SD2	IDTV SD2	FM RADIO SD2
EUROPE	UV1318S/AI H N3	UV1318SD/A CPHN 3	UR1316S/A I H3
CHINA	UV1318SI/AI C H3	-	UR1316S/A I H3
AP(PAL)	UV1316E/A I H4	-	UR1316S/A I H3
NA/LA/AP(NTSC)	UV1338/A F SH4	-	UR1336/A F I S H3

★	EU	AP	CHINA	NAFTA
4102	Y	Y	–	Y
4103	–	–	Y	–
4104	–	Y	–	–
4106	Y	–	Y	–
4110	Y	Y	Y	Y
4111	Y	–	–	–
4113	–	Y	Y	–
4107	–	–	Y	–
4108	–	–	Y	–

★	1104	1105	1106
EUROPE	OFWK3953L	–	OFWK9656L
AP	OFWK7265L	–	OFWK9361L
CHINA	OFWK3956L	OFWK9355L	OFWK9352L
NAFTA	OFWM1967L	–	–

★	Non-EU	EU
3104	0R	10K
6103	-	Yes

1101	C1
1102	A1
1103	E2
1104	C9
1105	D8
1106	E9
1107	F3
2101	A6
2102	A6
2103	B6
2104	D3
2105	D3
2106	D5
2107	E2
2108	E3
2109	D4
2110	F6
2111	F7
2112	F7
2113	B6
2114	E7
3101	D2
3102	D2
3103	D3
3104	D4
3105	D2
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3123	G2
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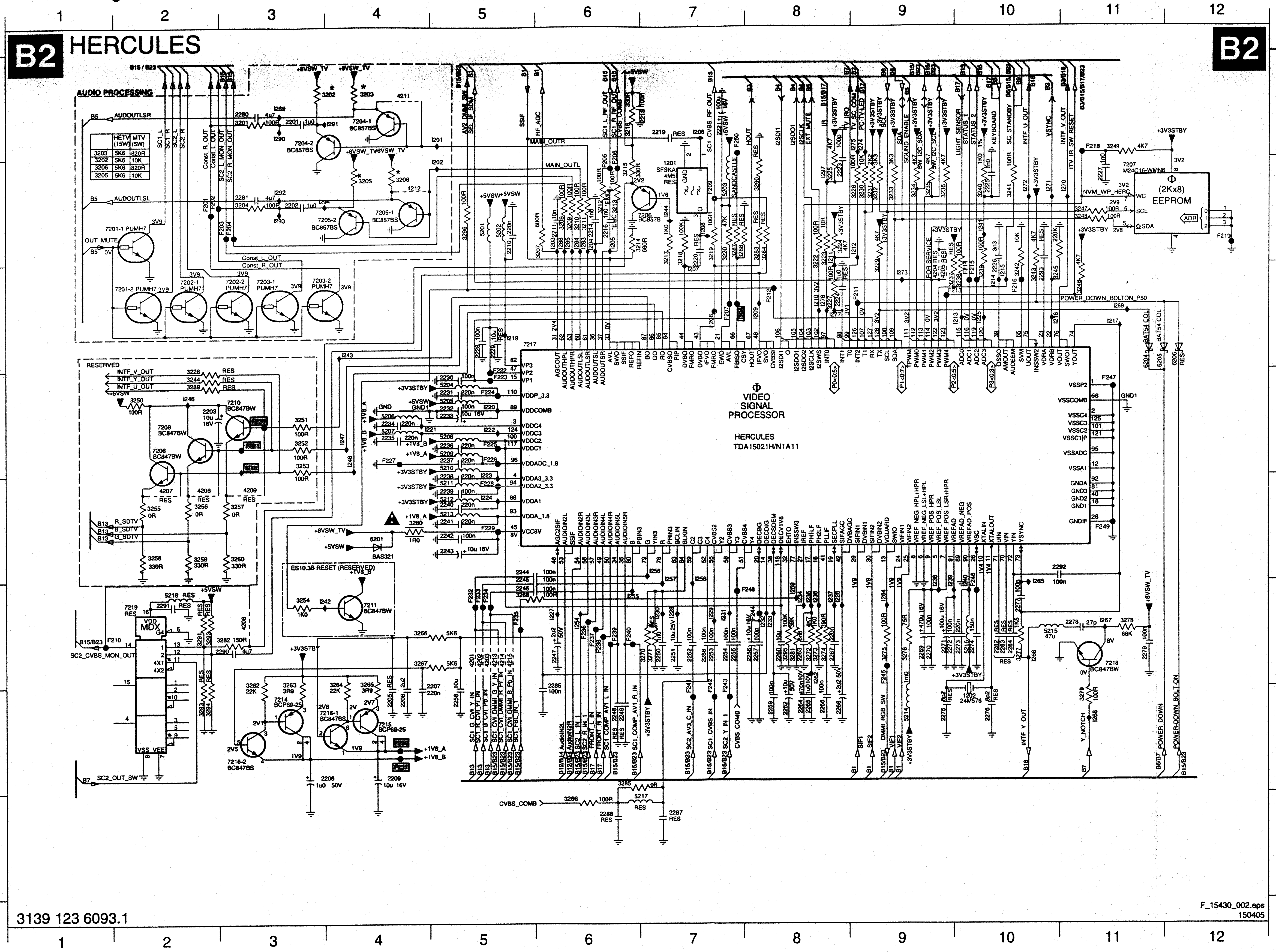
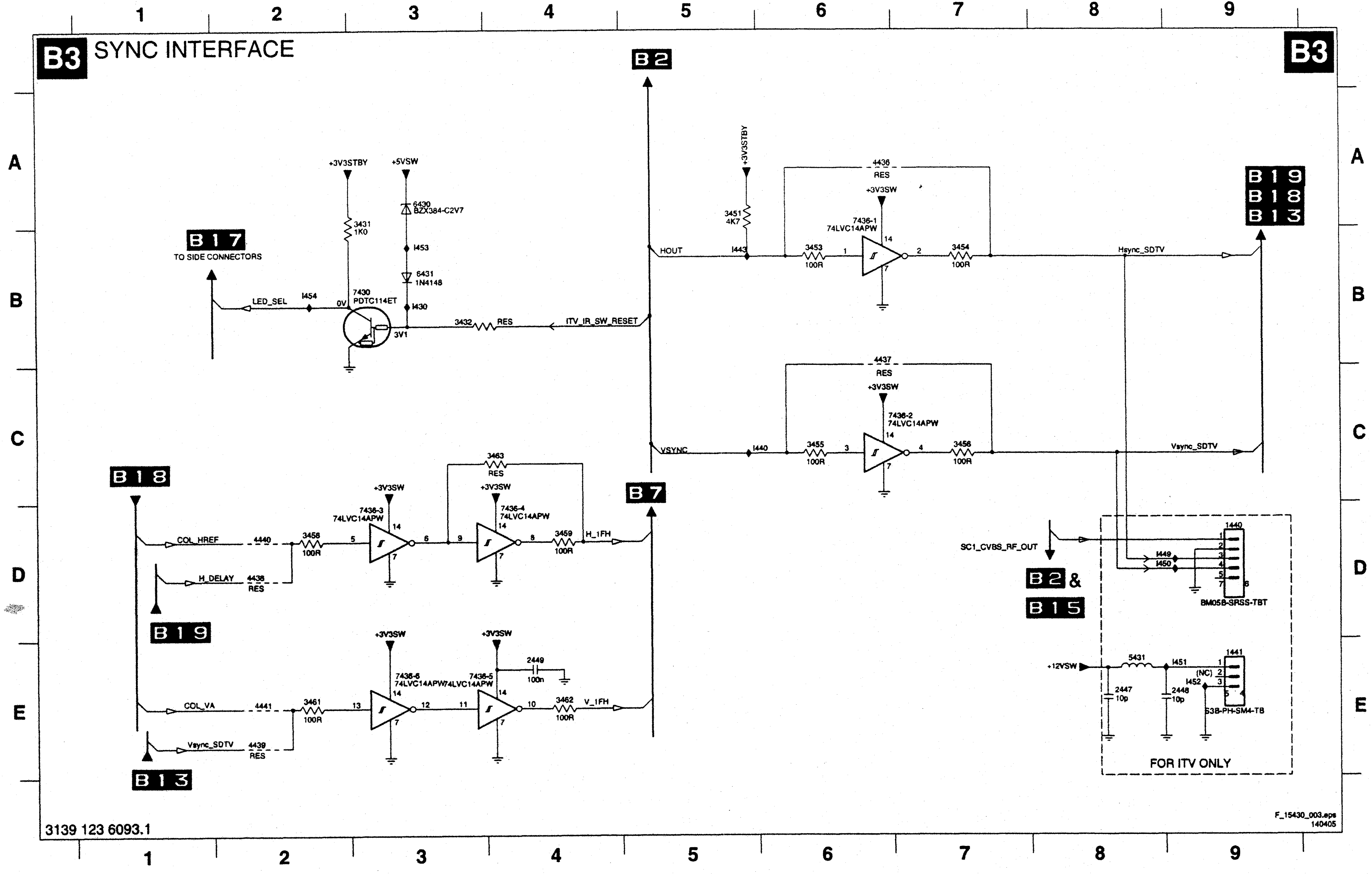
3126	E1
3127	E1
4102	C8
4103	C8
4104	C8
4105	C8
4106	C8
4107	D9
4108	D10
4109	E8
4110	F8
4111	F8
4112	F8
4113	F8
4114	F7
4115	B4
4116	C4
5101	B5
5102	A6
5103	B6
5105	C9
5106	E9
5107	D2
5108	D2
6101	D1
6102	D2
6103	D4
6104	C6
6105	C7
6106	G2
6107	G3
7101	D6
7102	D7
7103	F6
F101	B1
F102	C1
F103	C2
F104	C1
F105	C4
F106	D2
F107	D3
F108	B4
F109	E5
F110	C10
F111	C10
F112	E10
F113	F10
F114	G7
F115	F3
F116	G3
F117	G3
I101	D3
I102	C6
I103	D6
I104	E5
I105	D6
I106	D7
I107	F6
I108	F7
I109	F7
I110	D7
I111	F6
I112	C1
I113	D2

SSB: Histogram and Hercules



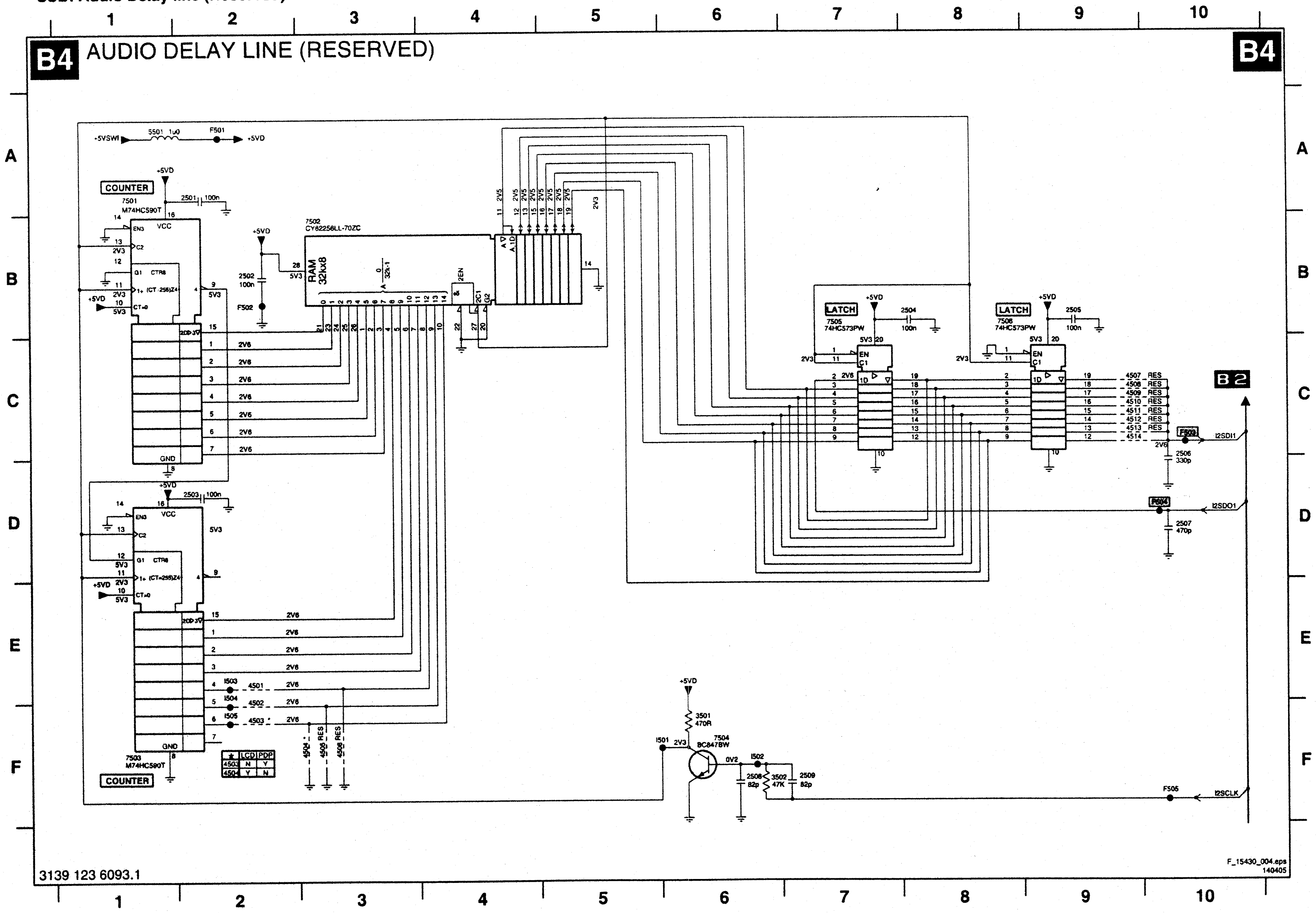
1201	B7
1202	G10
2201	A3
2202	B3
2203	D2
2205	G4
2206	G4
2207	F5
2208	G4
2209	G4
2210	B5
2211	B6
2214	B6
2216	B6
2218	A7
2219	A7
2220	B7
2221	A7
2223	B8
2224	C8
2225	B10
2226	C10
2227	B11
2228	C5
2229	C5
2230	D5
2231	D5
2232	D5
2233	D5
2234	D4
2235	D4
2236	D5
2237	D5
2238	E5
2239	E5
2240	E5
2241	E5
2242	E5
2243	E5
2244	E5
2245	E5
2246	F5
2247	F6
2248	G6
2249	G6
2250	F7
2251	F7
2252	F7
2253	F7
2254	F7
2255	F7
2256	F8
2257	F8
2258	G5
2259	G8
2260	F8
2262	G8
2263	F8
2264	G8
2265	G8
2266	G8
2267	F8
2268	G8
2269	F9
2270	F9
2271	F9
2272	F9
2273	F10
2274	F10
2275	G9
2276	G10
2277	F10
2278	F11
2279	F11
2280	A3
2281	B3
2282	F10
2283	F10
2284	F10
2285	F6
2286	F7
2287	H7
2288	H6
2290	F3
2291	F2
2292	E11
2293	C10
3201	A3
3202	A4
3203	A4
3204	B3
3205	B4
3206	B4
3207	B6
3208	B6
3209	B6
3210	B6
3211	B6
3212	B6
3213	B6
3214	B7
3215	B6
3216	A6
3217	B7
3218	B7
3219	B7
3220	B7
3222	B8
3223	B8
3224	B8
3225	B8
3226	B9
3227	C8
3228	D2
3229	C9
3230	B9
3231	B9
3232	B9
3233	B9
3234	B9
3235	B9
3236	B9
3237	C9
3238	C10
3239	C10
3240	B10
3241	B10
3242	C10
3243	C10
3244	D2
3245	C10
3246	C11
3247	B11
3248	B11
3249	A11
3250	D2
3251	D3
3252	D3
3253	D3
3254	F3
3255	E2
3256	E2
3257	E3
3258	E2
3259	E2
3260	E3
3262	F3
3263	F3
3264	F4
3265	F4
3266	F4
3267	F4
3268	F5
3270	F7
3271	F7
3272	F8
3273	F8
3274	F8
3275	F9
3276	F9
3277	F10
3278	F11
3279	G11
3280	E4
3281	F8
3282	F3
3283	B8
3284	B8
3285	G6
3286	H6
3287	B7
3288	B7
3289	D2
3290	B8
3291	F2
3292	F2
3293	G2
3294	G2
3295	F8
3296	B5
4201	F5
4202	F5
4203	F5
4204	C9
4205	C9
4206	F3
4207	E2
4208	E2
4209	E3
4211	A4
4212	B4
4213	F5
4214	F5
4215	F5
5201	B5
5202	B5
5203	B7
5204	D5
5205	D5
5206	D4
5207	D4
5208	D5
5209	D5
5210	D5
5211	E5
5212	E5
5213	E5
5214	G9
5215	F10
5216	F10
5217	H7
5218	F2
6201	E4
6204	C11
6205	C11
6206	C12
7201-1	B1
7201-2	C2
7202-1	C2
7202-2	C3
7203-1	C3
7203-2	C3
7204-1	A4
7204-2	A3
7205-1	B4
7205-2	B4
7206	B6
7207	B11
7208	D2
7209	D2
7210	D3
7211	F4
7214	G3
7215	G4
7216-1	G3
7216-2	G3
7217	C6
7218	F11
7219	F2
F201	B2
F202	B2
F203	B3
F204	B3
F205	B6
F206	B6
F207	C7
F208	C7
F209	B7
F210	F1
F211	C9
F212	C8
F213	C10
F214	C10
F215	C10
F216	C10
F218	A11
F219	B12
F220	D3
F221	D3
F222	D5
F223	D5
F224	D5
F225	D5
F226	D5
F227	D4
F228	E5
F229	E5
F230	G4
F231	G4
F232	F5
F233	F5
F234	F5
F235	F5
F236	F6
F237	F6
F238	F6
F239	F6
F240	F6
F241	G7
F242	G7
F243	G7
F244	F8
F245	F9
F246	F10
F247	D11
F248	F8
F249	E11
F250	A7
I201	A5
I202	B5
I203	B6
I204	B6
I205	B6
I206	A7
I207	C7
I208	B7
I209	C8
I210	C8
I211	B8
I212	B9
I213	C10
I214	C10
I215	C10
I216	C10
I217	C11
I218	D3
I219	C5
I220	D5
I221	D5
I222	D5
I223	D5
I224	E5
I225	C10
I226	F8
I227	F6
I228	F7
I229	F7
I230	F7
I231	F7
I232	F8
I233	F8
I234	F8
I235	F8
I236	F8
I237	F8
I238	F9
I239	F9
I240	F10
I241	B10
I242	F4
I243	C4
I244	B7
I246	D2
I247	D4
I248	D4
I254	F6
I255	F6
I256	E7
I257	E7
I258	E7
I259	F8
I262	F8
I264	F9
I265	F10
I266	F10
I267	F11
I268	G11
I269	C11
I270	B11
I271	B10
I272	B10
I273	C9
I274	A9
I275	A9
I277	C8
I278	C8
I283	B6
I284	B6
I285	B6
I288	B6
I289	A3
I290	A3
I291	A4
I292	B3
I293	B3
I294	B3
I297	B8
I298	C7

SSB: Sync Interface


B3
SYNC INTERFACE
B2
B3
B17
TO SIDE CONNECTORS
LED_SEL
I454
0V
7430
PDTC114ET
3V1
+3V3STBY
3431
1K0
+5VSW
6430
BZX384-C2V7
I453
6431
1N4148
I430
3432
RES
ITV_IR_SW_RESET
HOUT
I443
+3V3STBY
3451
4K7
4436
RES
+3V3SW
7436-1
74LVC14APW
3453
100R
3454
100R
Hsync_SDTV
B19
B18
B13
4437
RES
7436-2
74LVC14APW
VSYNC
I440
3455
100R
3456
100R
Vsync_SDTV
B18
COL_HREF
4440
3458
100R
7436-3
74LVC14APW
3463
RES
7436-4
74LVC14APW
3459
100R
H_1FH
B7
H_DELAY
4438
RES
B19
SC1_CVBS_RF_OUT
B2 &
B15
1440
I449
I450
BM05B-SRSS-TBT
COL_VA
4441
3461
100R
7436-6
74LVC14APW
7436-5
74LVC14APW
2449
100n
3462
100R
V_1FH
Vsync_SDTV
4439
RES
B13
+12VSW
5431
I451
1441
(NC)
I452
2447
10p
2448
10p
S3B-PH-SM4-TB
FOR ITV ONLY
3139 123 6093.1
F_15430_003.eps
140405
1
2
3
4
5
6
7
8
9
A
B
C
D
E

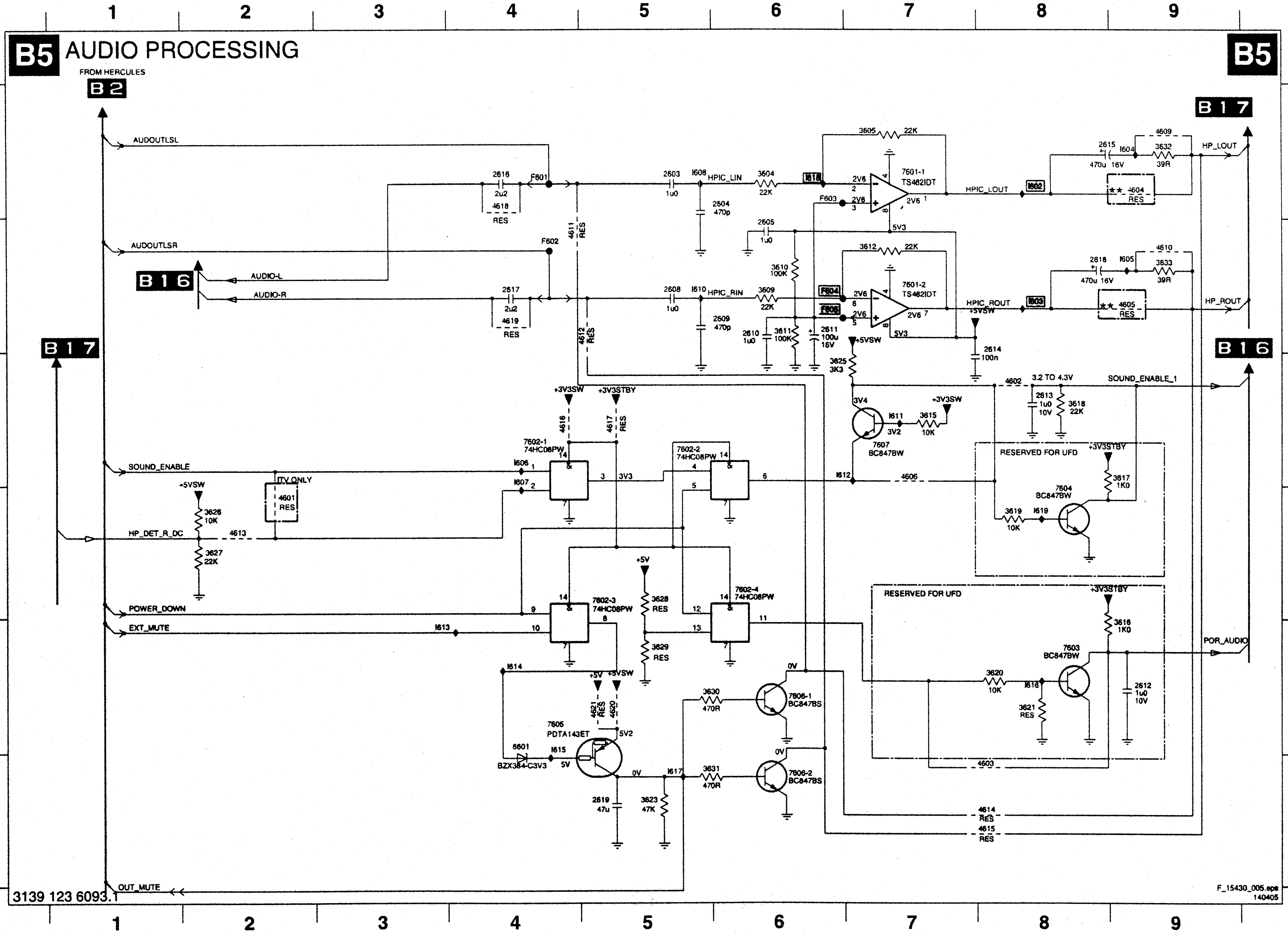
1440	D9
1441	E9
2447	E8
2448	E9
2449	E4
3431	A3
3432	B3
3451	A5
3453	B6
3454	B7
3455	C6
3456	C7
3458	D2
3459	D4
3461	E2
3462	E4
3463	C4
4436	A6
4437	B6
4438	D2
4439	E2
4440	D2
4441	E2
5431	E8
6430	A3
6431	B3
7430	B3
7436-1	A6
7436-2	C7
7436-3	D3
7436-4	D4
7436-5	E4
7436-6	E3
I430	B3
I440	C6
I443	B5
I449	D8
I450	D8
I451	E9
I452	E9
I453	B3
I454	B2

SSB: Audio Delay line (Reserved)


B4
AUDIO DELAY LINE (RESERVED)
1 2 3 4 5 6 7 8 9 10
A B C D E F
+5VSWI
5501 1u0
F501
+5VD
COUNTER
7501
M74HC590T
2501 100n
EN3
C2
G1 CTR8
1+ (CT=256)Z4
CT=0
VCC
GND
2V3
5V3
2V6
7502
CY62256LL-70ZC
RAM
32kx8
2EN
2C1
G2
2502
100n
F502
2V5
LATCH
7505
74HC573PW
2504 100n
7506
74HC573PW
2505 100n
EN
C1
1D
4507 RES
4508 RES
4509 RES
4510 RES
4511 RES
4512 RES
4513 RES
4514
B2
F503
I2SDI1
2506
330p
F504
I2SDO1
2507
470p
2503 100n
7503
M74HC590T
I503
I504
I505
4501
4502
4503
4504
4505 RES
4506 RES
LCD PDP
4503 N Y
4504 Y N
3501
470R
7504
BC847BW
I501
I502
0V2
2508 82p
3502 47K
2509 82p
F505
I2SCLK
3139 123 6093.1
F_15430_004.eps
140405

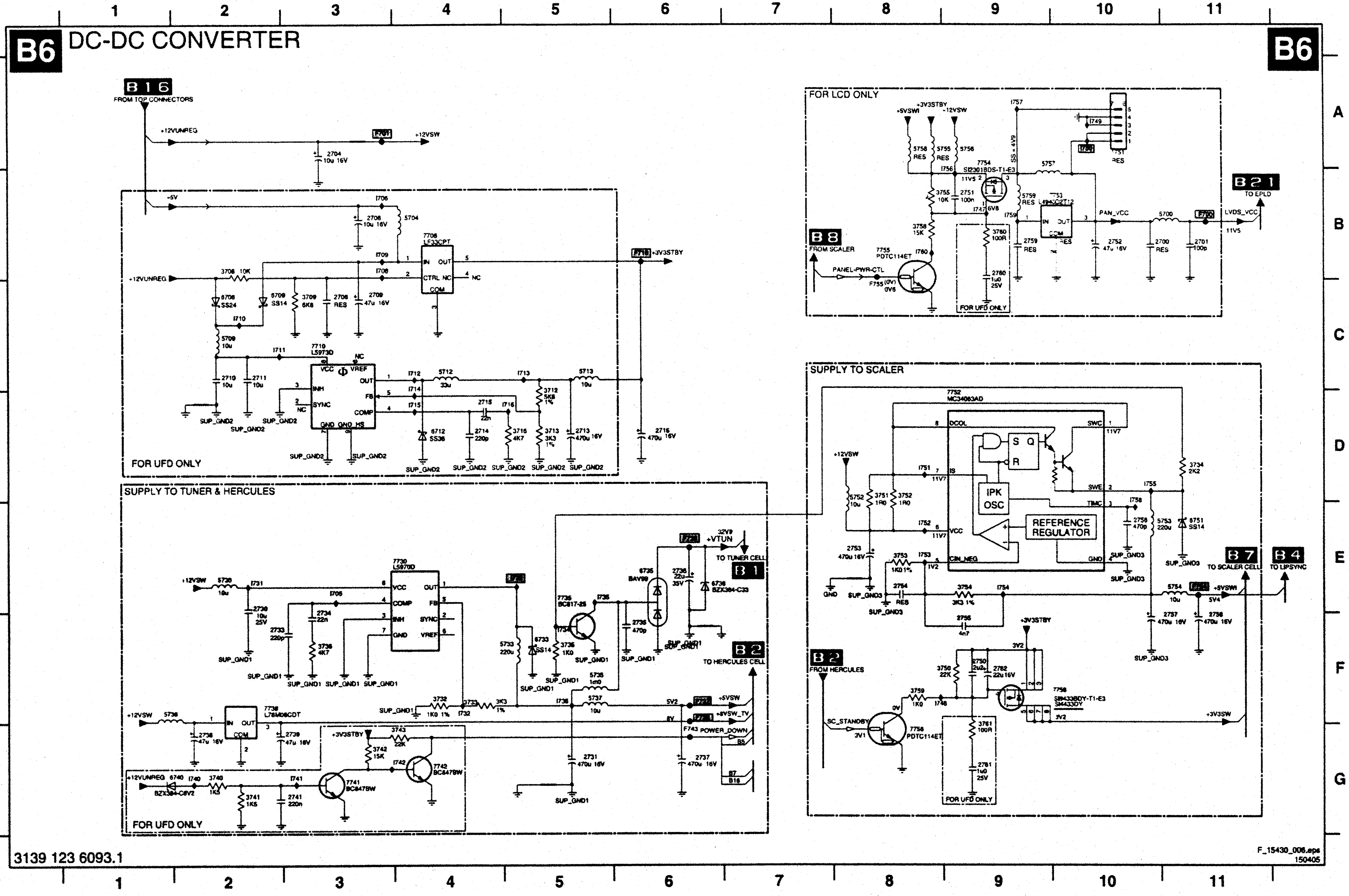
2501	A2
2502	B2
2503	D2
2504	B8
2505	B9
2506	C10
2507	D10
2508	F6
2509	F7
3501	F6
3502	F6
4501	E2
4502	F2
4503	F2
4504	F3
4505	F3
4506	F3
4507	C9
4508	C9
4509	C9
4510	C9
4511	C9
4512	C9
4513	C9
4514	C9
5501	A1
7501	A1
7502	B3
7503	F1
7504	F6
7505	B7
7506	B8
F501	A2
F502	B2
F503	C10
F504	D10
F505	F10
I501	F5
I502	F6
I503	E2
I504	E2
I505	F2

SSB: Audio Processing


B5 AUDIO PROCESSING
B5
FROM HERCULES
B2
B17
B16
B17
B16
AUDOUTLSL
AUDOUTLSR
AUDIO-L
AUDIO-R
SOUND_ENABLE
HP_DET_R_DC
POWER_DOWN
EXT_MUTE
OUT_MUTE
ITV ONLY
4601 RES
2616 2u2
4618 RES
2617 2u2
4619 RES
F601
F602
4611 RES
4612 RES
2603 1u0
2608 1u0
I608 HPIC_LIN
I610 HPIC_RIN
2604 470p
2609 470p
3604 22K
3609 22K
3605 22K
3612 22K
2605 1u0
3610 100K
3611 100K
2610 1u0
2611 100u 16V
7601-1 TS482IDT
7601-2 TS482IDT
HPIC_LOUT
HPIC_ROUT
I602
I603
2615 470u 16V
2618 470u 16V
3632 39R
3633 39R
4609
4610
4604 RES
4605 RES
HP_LOUT
HP_ROUT
+5VSW
2614 100n
3625 3K3
3V4
7607 BC847BW
I611 3V2
3615 10K
+3V3SW
4602
3.2 TO 4.3V
SOUND_ENABLE_1
2613 1u0 10V
3618 22K
RESERVED FOR UFD
+3V3STBY
3617 1K0
7604 BC847BW
3619 10K
I619
7602-1 74HC08PW
7602-2 74HC08PW
7602-3 74HC08PW
7602-4 74HC08PW
4616 RES
4617 RES
I606
I607
I612
4606
3626 10K
3627 22K
4613
+5V
3628 RES
3629 RES
I613
I614
+5V
+5VSW
4621 RES
4620 RES
7605 PDTA143ET
5V2
6601 BZX384-C3V3
I615
5V
0V
2619 47u
3623 47K
I617
3630 470R
3631 470R
7606-1 BC847BS
7606-2 BC847BS
0V
RESERVED FOR UFD
3616 1K0
7603 BC847BW
3620 10K
I618
3621 RES
2612 1u0 10V
POR_AUDIO
4603
4614 RES
4615 RES
3139 123 6093.1
F_15430_005.eps 140405

2603	A5
2604	A6
2605	B6
2608	B5
2609	B6
2610	B6
2611	B6
2612	E9
2613	C8
2614	B8
2615	A8
2616	A4
2617	B4
2618	B8
2619	F5
3604	A6
3605	A7
3609	B6
3610	B6
3611	B6
3612	B7
3615	C7
3616	E9
3617	C9
3618	C8
3619	D8
3620	E8
3621	E8
3623	F5
3625	C6
3626	D2
3627	D2
3628	D5
3629	E5
3630	E5
3631	F5
3632	A9
3633	B9
4601	D2
4602	C8
4603	F8
4604	A9
4605	B9
4606	C7
4609	A9
4610	B9
4611	B4
4612	B4
4613	D2
4614	F8
4615	F8
4616	C4
4617	C5
4618	A4
4619	B4
4620	E5
4621	E5
6601	E4
7601-1	A7
7601-2	B7
7602-1	C4
7602-2	C5
7602-3	D5
7602-4	D6
7603	E8
7604	D8
7605	E4
7606-1	E6
7606-2	F6
7607	C7
F601	A4
F602	B4
F603	A6
F604	B6
F605	B6
I602	A8
I603	B8
I604	A9
I605	B9
I606	C4
I607	C4
I608	A5
I610	B5
I611	C7
I612	C6
I613	E3
I614	E4
I615	E4
I616	E8
I617	F5
I618	A6
I619	D8

SSB: DC-DC Converter


B6
DC-DC CONVERTER
B16
FROM TOP CONNECTORS
+12VUNREG
+12VSW
+5V
+3V3STBY
FOR UFD ONLY
SUPPLY TO TUNER & HERCULES
B1
TO TUNER CELL
+VTUN
B2
TO HERCULES CELL
+5VSW
+8VSW_TV
POWER_DOWN
FOR LCD ONLY
B21
TO EPLD
LVDS_VCC
PAN_VCC
B8
FROM SCALER
PANEL-PWR-CTL
FOR UFD ONLY
SUPPLY TO SCALER
MC34063AD
IPK OSC
REFERENCE REGULATOR
B7
TO SCALER CELL
B4
TO LIPSYNC
B2
FROM HERCULES
SC_STANDBY
+3V3SW
3139 123 6093.1
F_15430_006.eps
150405

1751	A10
2700	B11
2701	B11
2704	A3
2706	B3
2708	C3
2709	C3
2710	C2
2711	C2
2713	D5
2714	D4
2715	D4
2716	D6
2730	E2
2731	G5
2733	F2
2734	E3
2735	F6
2736	E6
2737	G6
2738	G2
2739	G3
2741	G3
2750	F9
2751	B9
2752	B10
2753	E8
2754	E8
2755	F9
2756	E10
2757	E11
2758	E11
2759	B9
2760	B9
2761	G9
2762	F9
3708	B2
3709	C3
3712	D5
3713	D5
3716	D5
3732	F4
3733	F4
3734	D11
3735	F5
3736	F3
3740	G2
3741	G2
3742	G3
3743	G4
3750	F9
3751	D8
3752	D8
3753	E8
3754	E9
3755	B9
3758	B8
3759	F8
3760	B9
3761	F9
5700	B11
5704	B4
5709	C2
5712	C4
5713	C5
5730	E2
5733	F5
5735	F5
5737	F5
5738	F1
5752	D8
5753	E11
5754	E11
5755	A9
5756	A9
5757	A9
5758	A8
5759	B9
6708	C2
6709	C2
6712	D4
6733	F5
6735	E6
6736	E6
6740	G2
6751	E11
7708	B4
7710	C3
7730	E3
7735	E5
7738	F2
7741	G3
7742	G4
7752	D9
7753	B10
7754	A9
7755	B8
7756	G8
7758	F10
F700	B11
F701	A3
F710	B6
F736	E6
F737	F6
F738	F6
F743	G6
F754	E11
F755	C8
I705	E3
I706	B3
I708	B3
I709	B3
I710	C2
I711	C2
I712	C4
I713	C5
I714	C4
I715	D4
I716	D5
I731	E2
I732	F4
I733	E5
I734	F5
I735	E5
I736	F5
I740	G2
I741	G3
I742	G4
I747	B9
I748	F8
I749	A10
I750	A10
I751	D8
I752	E8
I753	E8
I754	E9
I755	D10
I756	B9
I757	A9
I758	D10
I759	B9
I760	B8

SSB: Diversity Tables B1-B6

B1 TUNER & IF

Item	AP - non China	Europe	NAFTA/LT	AP - DVB	Europe - DVB	China	Description
1102						V	TUN V+U PLL IEC BGDKM B
1102		V					TUN V+U PLL IEC BGHIL B
1102			V				TUNER UV1338/A F S H-4
1102	V						TUNER UV1316E/A I H-4
1102				V	V		TUNER UV1318SD/A CP H N-4
1104		V			V		FIL SAW SM 38MHZ9 OFWK3953L R
1104						V	FIL SAW SM 38MHZ OFWM3956L R
1104			V				FIL SAW SM 45MHZ75 OFWM1967L R
1104	V			V			FIL SAW SM 38MHZ9 OFWK7265L R
1105						V	FIL SAW SM 38MHZ OFWK3955L R
1106		V			V		FIL SAW SM 38MHZ9 OFWK9656L R
1106						V	FIL SAW SM 38MHZ OFWK9352L R
1106	V			V			FIL SAW SM 38MHZ9 OFWK9361L R
3101	V		V			V	RST SM 0603 100R PM5 COL
3102	V		V			V	RST SM 0603 100R PM5 COL
3104		V			V		RST SM 0603 10K PM5COL
3104	V		V	V		V	RST SM 0603 JUMP. 0R05 COL
3107	V	V		V	V	V	RST SM 0603 6K8 PM5 COL
3108	V	V		V	V	V	RST SM 0603 2K2 PM5 COL
3109	V	V		V	V	V	RST SM 0603 2K2 PM5 COL
3110						V	RST SM 0603 2K2 PM5 COL
3111	V	V		V	V	V	RST SM 0603 22K PM5 COL
3112	V	V		V	V	V	RST SM 0603 18K PM5 COL
3113						V	RST SM 0603 22K PM5 COL
3114						V	RST SM 0603 47K PM5 COL
4102	V	V	V	V	V		RST SM 0603 JUMP. 0R05 COL
4103						V	RST SM 0603 JUMP. 0R05 COL
4104	V			V			RST SM 0603 JUMP. 0R05 COL
4106		V	V		V	V	RST SM 0603 JUMP. 0R05 COL
4107						V	RST SM 0603 JUMP. 0R05 COL
4108						V	RST SM 0603 JUMP. 0R05 COL
4110	V	V		V	V	V	RST SM 0603 JUMP. 0R05 COL
4111		V			V		RST SM 0603 JUMP. 0R05 COL
4113	V			V		V	RST SM 0603 JUMP. 0R05 COL
5101	V	V		V	V	V	FXDIND SM 0805 0U39 PM10 COL R
5101			V				FXDIND SM 0805 0U68 PM10 COL R
5102	V	V	V	V		V	FXDIND SM 0805 12U PM10 COL R
5102					V		FXDIND SM 1008 6U8 PM5 COL R
5107				V	V		FXDIND 0603 100MHZ 600R COL R
5107		V					RST SM 0603 100R PM5 COL
5108				V	V		FXDIND 0603 100MHZ 600R COL R
5108		V					RST SM 0603 100R PM5 COL
6103		V			V		DIO SIG SM BAS316 (COL) R
6105						V	DIO SIG SM 1SS356 (RHM0) R
7101	V	V		V	V	V	TRA SIG SM BC847BW (COL) R
7102						V	TRA SIG SM BC847BW (COL) R

B2 HERCULES

Item	LC4.3A AB (DVB-T)	LC4.3E AB/LC4.8E AB/LC4.9E AB (DVB-T)	LC4.3U/L	LC4.3E/LC4.8E/LC4.9E	LC4.3E W/O 3D COMB FILTER	LC4.3A - CHINA	LC4.3A - AP (non-China)	Description
2203	V	V		V	V	V	V	ELCAP SM 16V 10U PM20 COL R
2229			V					CER2 0805 X5R 6V3 10U PM10 R
2244	V	V		V	V			CER2 0402 Y5V 16V 100N COL
2245	V	V		V	V			CER2 0402 Y5V 16V 100N COL
2246	V	V		V	V			CER2 0402 Y5V 16V 100N COL
2255	V	V	V	V		V	V	CER2 0402 Y5V 16V 100N COL
2286	V	V	V	V		V	V	CER2 0402 Y5V 16V 100N COL
2289	V							CER2 0805 Y5V 10V 4U7 P8020 R
2289				V				RST SM 0603 150R PM5 COL
2290	V	V		V	V			CER2 0805 Y5V 10V 4U7 P8020 R
2291	V	V		V				CER2 0402 Y5V 16V 100N COL
2292		V						CER2 0402 Y5V 16V 100N COL
3250		V		V	V	V	V	RST SM 0402 100R PM5 COL
3251		V		V	V	V	V	RST SM 0402 100R PM5 COL
3252		V		V	V	V	V	RST SM 0402 100R PM5 COL
3253		V		V	V	V	V	RST SM 0402 100R PM5 COL
3255		V		V	V	V	V	RST SM 0402 JUMP. 0R05 COL
3256		V		V	V	V	V	RST SM 0402 JUMP. 0R05 COL
3257		V		V	V	V	V	RST SM 0402 JUMP. 0R05 COL
3258		V		V	V	V	V	RST SM 0402 1K PM5 COL
3259		V		V	V	V	V	RST SM 0402 1K PM5 COL
3260		V		V	V	V	V	RST SM 0402 1K PM5 COL
3270								RST SM 0402 10K PM5 COL
3282		V						RST SM 0603 150R PM5 COL
3285	V	V	V	V		V	V	RST SM 0402 JUMP. 0R05 COL
3286	V	V	V	V		V	V	RST SM 0402 100R PM5 COL
3291	V							RST SM 0402 47K PM5 COL
3292		V		V				RST SM 0402 12K PM5 COL
3292	V							RST SM 0402 47K PM5 COL
3293	V							RST SM 0402 47K PM5 COL
3294	V	V		V				RST SM 0402 47K PM5 COL
3295	V	V		V	V	V	V	RST SM 0402 100K PM5 COL
3296	V	V						RST SM 0402 100R PM5 COL
4206			V		V	V	V	RST SM 0805 JUMP. 0R05 COL R
4213	V	V						RST SM 0402 JUMP. 0R05 COL
4214	V	V						RST SM 0402 JUMP. 0R05 COL
4215	V	V						RST SM 0402 JUMP. 0R05 COL
5218	V	V		V				IND FXD 1206 EMI 100MHZ 120R R
6206	V	V						DIO SIG SM BAT54 SOD323 COL R
7208		V		V	V	V	V	TRA SIG SM BC847BW (COL) R
7209		V		V	V	V	V	TRA SIG SM BC847BW (COL) R
7210		V		V	V	V	V	TRA SIG SM BC847BW (COL) R
7217			V			V		IC SM TDA15011H/N1BD0 (PHSE) Y
7217	V	V		V	V		V	IC SM TDA15021H/N1B91 (PHSE) Y
7219	V	V		V				IC SM 74HC4053D (PHSE) R

B3 SYNC INTERFACE

Item	26/32PFxxxx - AP/NAFTA/LT	EU & AP DVB sets	LC4.3E/LC4.9x/LC4.8x/LC4.3A-China	26PF4310/10	Description
2449	V	V	V		CER2 0402 Y5V 16V 100N COL
3432		V			RST SM 0402 2K7 PM5 COL
3458	V	V	V		RST SM 0402 100R PM5 COL
3459	V	V	V		RST SM 0402 100R PM5 COL
3461	V	V	V		RST SM 0402 100R PM5 COL
3462	V	V	V		RST SM 0402 100R PM5 COL
4436				V	RST SM 0402 JUMP. 0R05 COL
4437				V	RST SM 0402 JUMP. 0R05 COL
4440	V	V	V		RST SM 0402 JUMP. 0R05 COL
4441	V	V	V		RST SM 0402 JUMP. 0R05 COL
6430	V		V	V	DIO REG SM PDZ2.4B (PHSE) R
6431	V		V	V	DIO SIG SM 1N4148WS (VISH) R
7436	V	V	V		IC SM 74LVC14APW (PHSE) R

B5 AUDIO WITHOUT AMPLIFIER

Item	26/32PF	37/42/50PF	Description
2612		V	CER2 0603 Y5V 10V 1U COL
2613	V		CER2 0603 Y5V 10V 1U COL
2616	V		CER2 0603 X5R 6V3 2U2 PM10 R
2617	V		CER2 0603 X5R 6V3 2U2 PM10 R
3615	V		RST SM 0402 10K PM5 COL
3616		V	RST SM 0402 1K PM5 COL
3617		V	RST SM 0402 1K PM5 COL
3618	V		RST SM 0402 22K PM5 COL
3619		V	RST SM 0402 10K PM5 COL
3620		V	RST SM 0402 10K PM5 COL
3623	V		RST SM 0402 47K PM5 COL
3625	V		RST SM 0402 3K3 PM5 COL
3627	V		RST SM 0402 22K PM5 COL
3628		V	RST SM 0402 10K PM5 COL
3629		V	RST SM 0402 22K PM5 COL
3630	V		RST SM 0402 330R PM5 COL
3630		V	RST SM 0402 470R PM5 COL
3631	V		RST SM 0402 330R PM5 COL
3631		V	RST SM 0402 470R PM5 COL
3632		V	RST SM 0402 RC31 39R PM5 R
3833		V	RST SM 0402 RC31 39R PM5 R
4601		V	RST SM 0603 JUMP. 0R05 COL
4602	V		RST SM 0603 JUMP. 0R05 COL
4603	V		RST SM 0603 JUMP. 0R05 COL
4606		V	RST SM 0603 JUMP. 0R05 COL
4609	V		RST SM 0603 JUMP. 0R05 COL
4610	V		RST SM 0603 JUMP. 0R05 COL
4611	V		RST SM 0603 JUMP. 0R05 COL
4612	V		RST SM 0603 JUMP. 0R05 COL
4613	V		RST SM 0603 JUMP. 0R05 COL
4614		V	RST SM 0603 JUMP. 0R05 COL
4615		V	RST SM 0603 JUMP. 0R05 COL
4616	V		RST SM 0603 JUMP. 0R05 COL
4617		V	RST SM 0603 JUMP. 0R05 COL
4618		V	RST SM 0603 JUMP. 0R05 COL
4619		V	RST SM 0603 JUMP. 0R05 COL
4620	V		RST SM 0603 JUMP. 0R05 COL
4621		V	RST SM 0603 JUMP. 0R05 COL
7603		V	TRA SIG SM BC847BW (COL) R
7604		V	TRA SIG SM BC847BW (COL) R
7607	V		TRA SIG SM BC847BW (COL) R

B6 DC DC CONVERTER

Item	26/32PF LCD	37/42PF LCD	42/50PF PDP	DVB PDP 42PF	DVB LCD 37PF	Description
2701	V	V			V	CER1 0402 NP0 50V 100P COL
2706		V	V	V	V	ELCAP SM 16V 10U PM20 COL R
2709		V	V	V	V	ELCAP SM 16V 47U PM20 COL R
2710		V	V	V	V	CER2 1210 Y5V 25V 10U P8020 R
2711		V	V	V	V	CER2 1210 Y5V 25V 10U P8020 R
2713		V	V	V	V	ELCAP SM SEV 16V 470U PM20 R
2714		V	V	V	V	CER2 0402 X7R 50V 220P COL
2715		V	V	V	V	CER2 0402 X7R 16V 22N PM10 R
2741		V	V	V	V	CER2 0603 X7R 10V 220N COL
2751	V	V			V	CER2 0402 Y5V 16V 100N COL
2752	V	V			V	ELCAP SM 16V 47U PM20 COL R
2760	V	V			V	CER2 1206 X7R 25V 1U PM10 R
2761		V	V	V	V	CER2 1206 X7R 25V 1U PM10 R
3708		V	V	V	V	RST SM 0402 10K PM5 COL
3709		V	V	V	V	RST SM 0402 6K8 PM5 COL
3712		V	V	V	V	RST SM 0603 RC22H 5K6 PM1 R
3713		V	V	V	V	RST SM 0603 RC22H 3K3 PM1 R
3716		V	V	V	V	RST SM 0402 4K7 PM5 COL
3740		V	V	V	V	RST SM 0402 1K5 PM5 COL
3741		V	V	V	V	RST SM 0402 1K5 PM5 COL
3742		V	V	V	V	RST SM 0402 15K PM5 COL
3743		V	V	V	V	RST SM 0402 22K PM5 COL
3755	V	V			V	RST SM 0402 10K PM5 COL
3758	V	V			V	RST SM 0402 15K PM5 COL
3760	V	V			V	RST SM 0402 100R PM5 COL
3761		V	V	V	V	RST SM 0402 100R PM5 COL
5700	V	V			V	IND FXD 1206 EMI 100MHZ 120R R
5704		V	V	V	V	IND FXD SM 1206 10U PM20 R
5709		V	V	V	V	IND FXD SM 7032 10U PM20 R
5712		V	V	V	V	IND FXD SM 12565 33U PM20 R
5713		V	V	V	V	INDFXD SM 10145 10U PM20 R
5756	V	V			V	IND FXD 1206 EMI 100MHZ 120R R
5757	V	V			V	IND FXD 1206 EMI 100MHZ 120R R
6708		V	V	V	V	DIO REC SS24 COL R
6709		V	V	V	V	DIO REC SS14 COL R
6712		V	V	V	V	DIO REC SS36 COL R
6740		V	V	V	V	DIO REG SM PDZ8.2B (PHSE) R
7708		V	V	V	V	IC SM LF33CPT (ST00) R
7710		V	V	V	V	IC SM E-L5973D (ST00) R
7741		V	V	V	V	TRA SIG SM BC847BW (COL) R
7742		V	V	V	V	TRA SIG SM BC847BW (COL) R
7754	V	V			V	FET POW SM SI2301BDS-E3(VISH)R
7755	V	V			V	TRA SIG SM PDTC114ET (COL) R

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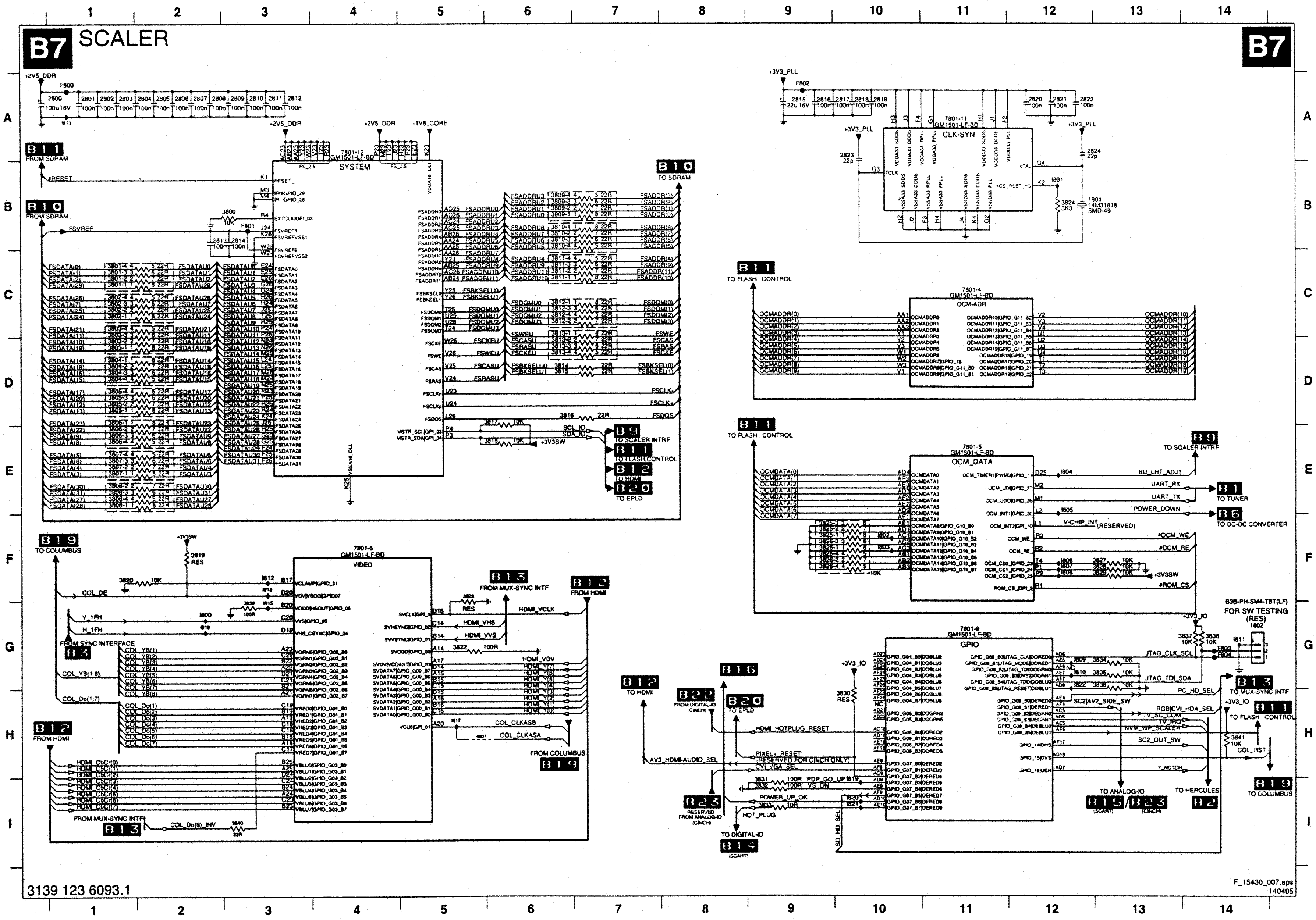
230505

SSB: Scaler


B7
SCALER
7801-12 GM1501-LF-BD SYSTEM
7801-11 GM1501-LF-BD CLK-SYN
7801-4 GM1501-LF-BD OCM-ADR
7801-5 GM1501-LF-BD OCM_DATA
7801-6 GM1501-LF-BD VIDEO
7801-9 GM1501-LF-BD GPIO
B11 FROM SDRAM
B10 FROM SDRAM
B10 TO SDRAM
B11 TO FLASH CONTROL
B9 TO SCALER INTRF
B11 TO FLASH CONTROL
B12 TO HDMI
B20 TO EPLD
B1 TO TUNER
B6 TO DC-DC CONVERTER
B19 TO COLUMBUS
B13 FROM MUX-SYNC INTF
B12 FROM HDMI
B3 FROM SYNC INTERFACE
B12 FROM HDMI
B13 FROM MUX-SYNC INTF
B19 FROM COLUMBUS
B12 TO HDMI
B22 FROM DIGITAL-IO (CINCH)
B16
B20 TO EPLD
B23 RESERVED FROM ANALOG-IO (CINCH)
B14 TO DIGITAL-IO (SCART)
B15 / B23 TO ANALOG-IO (SCART) (CINCH)
B2 TO HERCULES
B13 TO MUX-SYNC INTF
B11 TO FLASH CONTROL
B19 TO COLUMBUS
B3B-PH-SM4-TBT(LF) FOR SW TESTING (RES) 1802
+2V5_DDR
+1V8_CORE
+3V3_PLL
+3V3SW
+3V3_IO
3139 123 6093.1
F_15430_007.eps
140405

1801	B12
1802	G14
2800	A1
2801	A1
2802	A1
2803	A1
2804	A2
2805	A2
2806	A2
2807	A2
2808	A2
2809	A3
2810	A3
2811	A3
2812	A3
2813	B2
2814	B3
2815	A9
2816	A9
2817	A10
2818	A10
2819	A10
2820	A12
2821	A12
2822	A12
2823	A10
2824	A12
3800	B3
3801-1	C1
3801-2	C1
3801-3	C1
3801-4	C1
3802-1	C1
3802-2	C1
3802-3	C1
3802-4	C1
3803-1	D1
3803-2	D1
3803-3	C1
3803-4	C1
3804-1	D1
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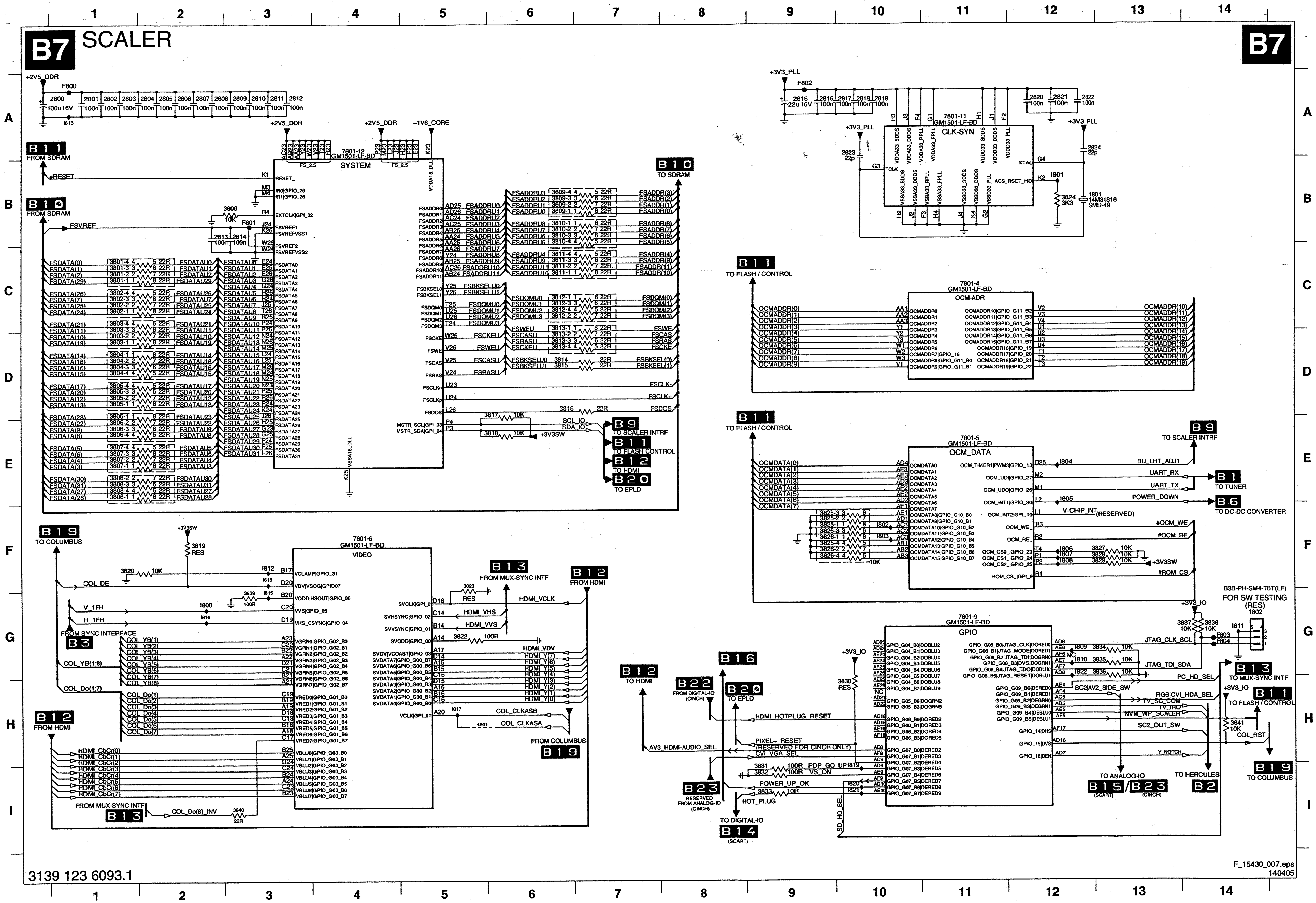
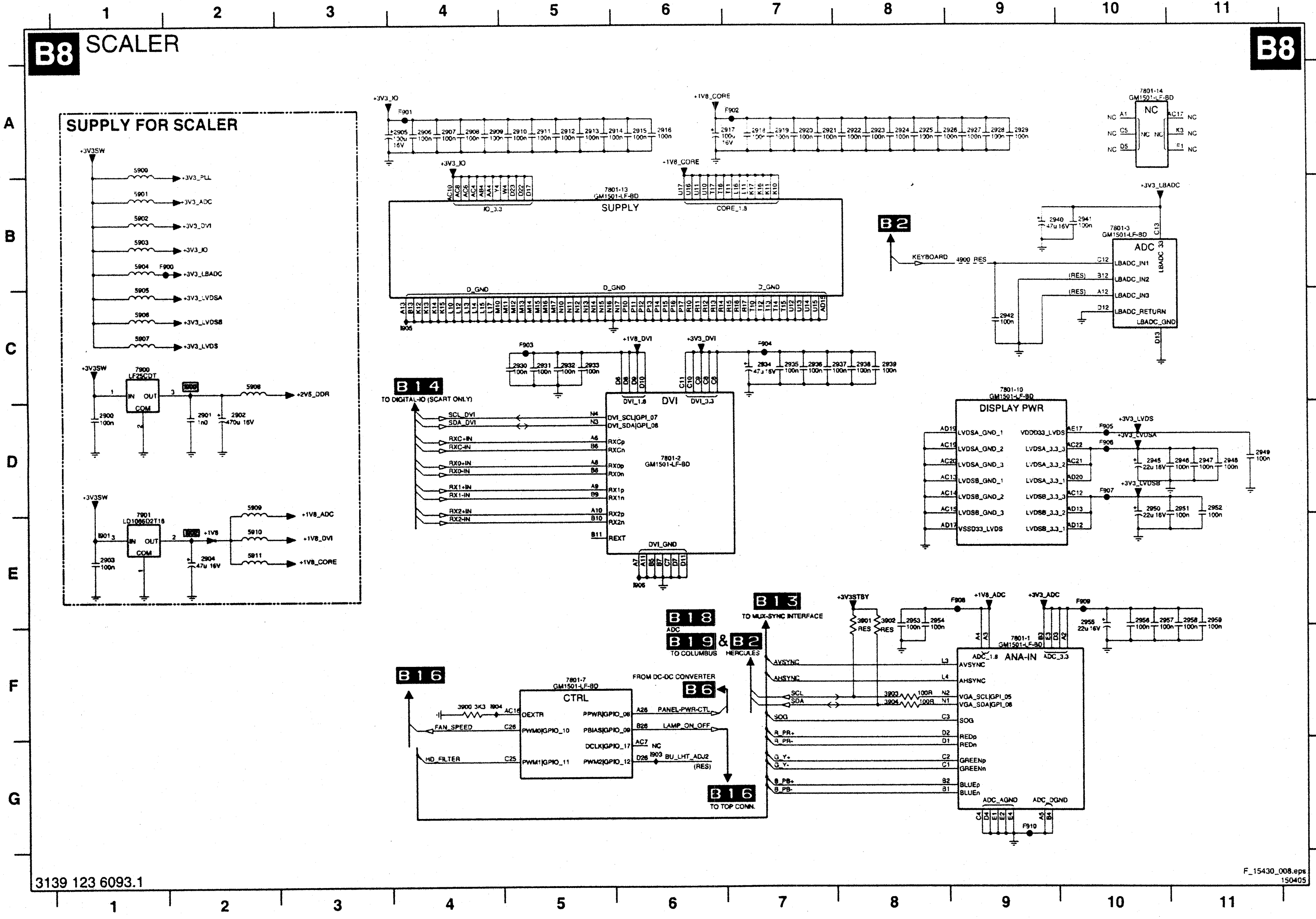
3812-3	C6
3812-4	C6
3813-1	C6
3813-2	D6
3813-3	D6
3813-4	D6
3814	D6
3815	D6
3816	D6
3817	D6
3818	E6
3819	F2
3820	F1
3822	G5
3823	F5
3824	B12
3825-1	F9
3825-2	F9
3825-3	F9
3825-4	F9
3826-1	F9
3826-2	F9
3826-3	F9
3826-4	F9
3827	F13
3828	F13
3829	F13
3830	H10
3831	I9
3832	I9
3833	I9
3834	G13
3835	G13
3836	G13
3837	G14
3838	G14
3839	G3
3840	I3
3841	H14
4801	H5
7801-11	A11
7801-12	A4
7801-4	C11
7801-5	E11
7801-6	F4
7801-9	G11
F800	A1
F801	B3
F802	A9
F803	G14
F804	G14
I800	G2
I801	B12
I802	F10
I803	F10
I804	E12
I805	E12
I806	F12
I807	F12
I808	F12
I809	G12
I810	G12
I811	G14
I812	F3
I813	A1
I815	G3
I816	G2
I817	H5
I818	F3
I819	I10
I820	I10
I821	I10
I822	G12

SSB: Scaler


B7
SCALER
+2V5_DDR
F800
2800 100u 16V
2801 2802 2803 2804 2805 2806 2807 2808 2809 2810 2811 2812 100n
I813
+2V5_DDR
+2V5_DDR
+1V8_CORE
7801-12 GM1501-LF-BD SYSTEM
B11 FROM SDRAM
#RESET
B10 FROM SDRAM
FSVREF
3800 10K
F801
2813 100n
2814 100n
B10 TO SDRAM
FSDATA(0) … FSDATA(31)
FSDATAU0 … FSDATAU31
FSADDRU0 … FSADDRU11
FSADDR(0) … FSADDR(11)
FSBKSELU0 FSBKSELU1
FSBKSEL(0) FSBKSEL(1)
FSDQMU0 … FSDQMU3
FSDQM(0) … FSDQM(3)
FSWEU FSCASU FSRASU FSCKEU
FSWE FSCAS FSRAS FSCKE
FSCLK- FSCLK+
FSDQS
3816 22R
3817 10K
3818 10K
MSTR_SCL|GPI_03
MSTR_SDA|GPI_04
SCL_IO SDA_IO
+3V3SW
B9 TO SCALER INTRF
B11 TO FLASH CONTROL
B12 TO HDMI
B20 TO EPLD
+3V3_PLL
F802
2815 22u 16V
2816 2817 2818 2819 100n
2820 2821 2822 100n
7801-11 GM1501-LF-BD CLK-SYN
+3V3_PLL
2823 22p
2824 22p
I801
3824 3K3
1801 14M31818 SMD-49
XTAL
ACS_RSET_HD
B11 TO FLASH / CONTROL
7801-4 GM1501-LF-BD OCM-ADR
OCMADDR(0) … OCMADDR(19)
B11 TO FLASH / CONTROL
7801-5 GM1501-LF-BD OCM_DATA
OCMDATA(0) … OCMDATA(7)
B9 TO SCALER INTRF
BU_LHT_ADJ1
UART_RX
UART_TX
B1 TO TUNER
POWER_DOWN
B6 TO DC-DC CONVERTER
V-CHIP_INT (RESERVED)
#OCM_WE
#OCM_RE
3825-1 … 3825-4
3826-1 … 3826-4
10K
I802 I803 I804 I805 I806 I807 I808
3827 3828 3829 10K
+3V3SW
#ROM_CS
B19 TO COLUMBUS
+3V3SW
3819 RES
3820 10K
7801-6 GM1501-LF-BD VIDEO
COL_DE
V_1FH
H_1FH
I800 I812 I815 I816
3839 100R
FROM SYNC INTERFACE
B3
COL_YB(1:8)
COL_YB(1) … COL_YB(8)
COL_Do(1:7)
COL_Do(1) … COL_Do(7)
B13 FROM MUX-SYNC INTF
3823 RES
B12 FROM HDMI
HDMI_VCLK
HDMI_VHS
HDMI_VVS
3822 100R
HDMI_VDV
HDMI_Y(0) … HDMI_Y(7)
COL_CLKASB
4801 COL_CLKASA
I817
FROM COLUMBUS
B19
B12 FROM HDMI
HDMI_CbCr(0) … HDMI_CbCr(7)
FROM MUX-SYNC INTF
B13
COL_Do(8)_INV
3840 22R
B38-PH-SM4-TBT(LF)
FOR SW TESTING (RES)
1802
+3V3_IO
3837 10K
3838 10K
I811
F803 F804
JTAG_CLK_SCL
JTAG_TDI_SDA
7801-9 GM1501-LF-BD GPIO
I809 3834 10K
I810 3835 10K
I822 3836 10K
PC_HD_SEL
B13 TO MUX-SYNC INTF
+3V3_IO
B11 TO FLASH / CONTROL
SC2|AV2_SIDE_SW
RGB|CVI_HDA_SEL
TV_SC_COM
TV_IRQ
NVM_WP_SCALER
SC2_OUT_SW
3841 10K
COL_RST
B19 TO COLUMBUS
Y_NOTCH
TO ANALOG-IO
B15 (SCART)
B23 (CINCH)
TO HERCULES
B2
B12 TO HDMI
B22 FROM DIGITAL-IO (CINCH)
B16
B20 TO EPLD
+3V3_IO
3830 RES
HDMI_HOTPLUG_RESET
AV3_HDMI-AUDIO_SEL
PIXEL+_RESET (RESERVED FOR CINCH ONLY)
CVI_VGA_SEL
3831 100R PDP_GO_UP
3832 100R VS_ON
I819 I820 I821
POWER_UP_OK
3833 10R
HOT_PLUG
B23 RESERVED FROM ANALOG-IO (CINCH)
TO DIGITAL-IO
B14 (SCART)
SD_HD_SEL
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I
3139 123 6093.1
F_15430_007.eps
140405

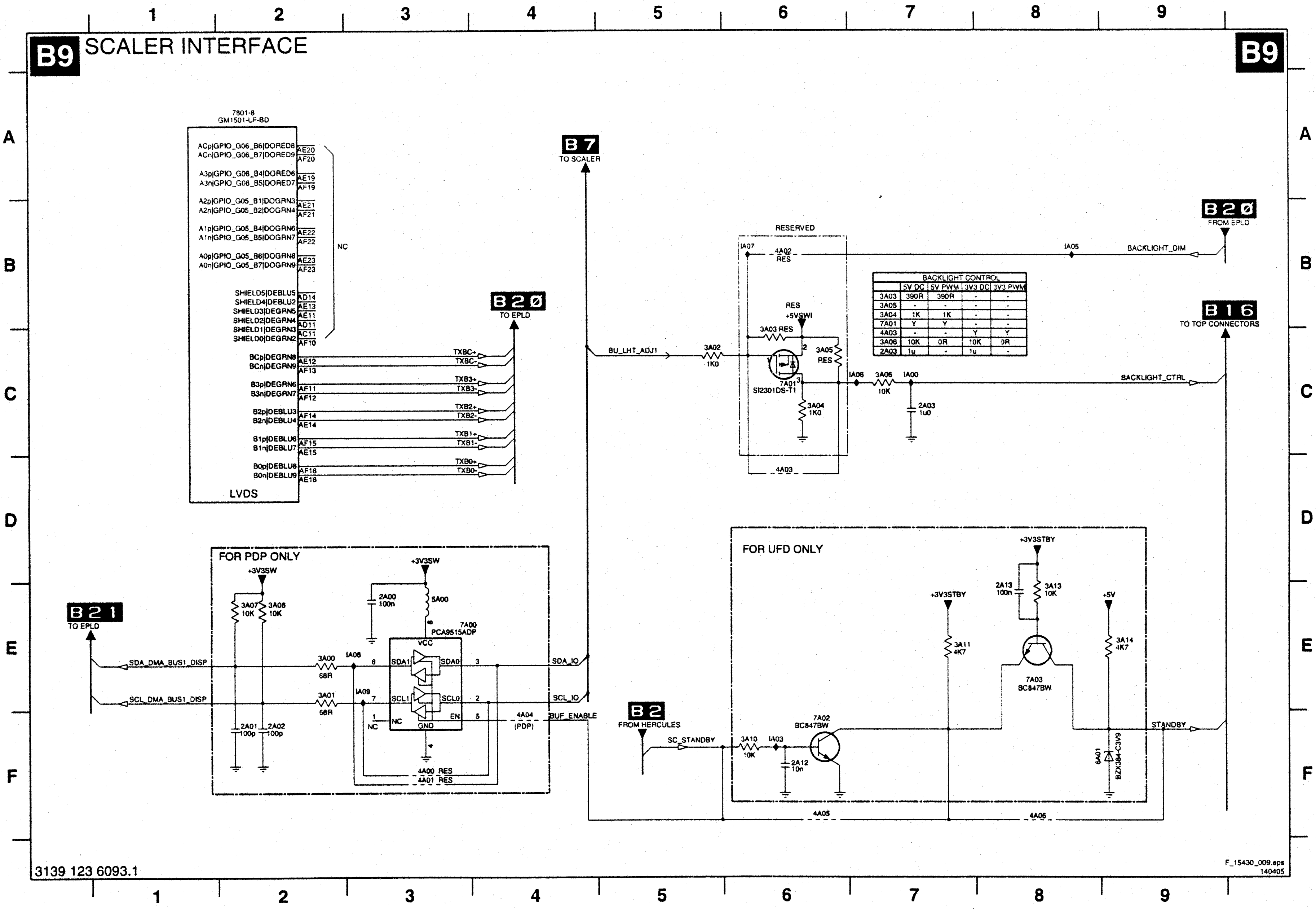
1801	B12
1802	G14
2800	A1
2801	A1
2802	A1
2803	A1
2804	A2
2805	A2
2806	A2
2807	A2
2808	A2
2809	A3
2810	A3
2811	A3
2812	A3
2813	B2
2814	B3
2815	A9
2816	A9
2817	A10
2818	A10
2819	A10
2820	A12
2821	A12
2822	A12
2823	A10
2824	A12
3800	B3
3801-1	C1
3801-2	C1
3801-3	C1
3801-4	C1
3802-1	C1
3802-2	C1
3802-3	C1
3802-4	C1
3803-1	D1
3803-2	D1
3803-3	C1
3803-4	C1
3804-1	D1
3804-2	D1
3804-3	D1
3804-4	D1
3805-1	D1
3805-2	D1
3805-3	D1
3805-4	D1
3806-1	D1
3806-2	E1
3806-3	E1
3806-4	E1
3807-1	E1
3807-2	E1
3807-3	E1
3807-4	E1
3808-1	E1
3808-2	E1
3808-3	E1
3808-4	E1
3809-1	B6
3809-2	B6
3809-3	B6
3809-4	B6
3810-1	B6
3810-2	B6
3810-3	B6
3810-4	B6
3811-1	C6
3811-2	C6
3811-3	C6
3811-4	C6
3812-1	C6
3812-2	C6
3812-3	C6
3812-4	C6
3813-1	C6
3813-2	D6
3813-3	D6
3813-4	D6
3814	D6
3815	D6
3816	D6
3817	D6
3818	E6
3819	F2
3820	F1
3822	G5
3823	F5
3824	B12
3825-1	F9
3825-2	F9
3825-3	F9
3825-4	F9
3826-1	F9
3826-2	F9
3826-3	F9
3826-4	F9
3827	F13
3828	F13
3829	F13
3830	H10
3831	I9
3832	I9
3833	I9
3834	G13
3835	G13
3836	G13
3837	G14
3838	G14
3839	G3
3840	I3
3841	H14
4801	H5
7801-11	A11
7801-12	A4
7801-4	C11
7801-5	E11
7801-6	F4
7801-9	G11
F800	A1
F801	B3
F802	A9
F803	G14
F804	G14
I800	G2
I801	B12
I802	F10
I803	F10
I804	E12
I805	E12
I806	F12
I807	F12
I808	F12
I809	G12
I810	G12
I811	G14
I812	F3
I813	A1
I815	G3
I816	G2
I817	H5
I818	F3
I819	I10
I820	I10
I821	I10
I822	G12

SSB: Scaler Supply


B8
SCALER
SUPPLY FOR SCALER
+3V3SW
5900 +3V3_PLL
5901 +3V3_ADC
5902 +3V3_DVI
5903 +3V3_IO
5904 F900 +3V3_LBADC
5905 +3V3_LVDSA
5906 +3V3_LVDSB
5907 +3V3_LVDS
7900 LF25CDT
IN OUT COM
5908 +2V5_DDR
2900 100n
2901 1n0
2902 470u 16V
7901 LD1086D2T18
I901
+1V8
5909 +1V8_ADC
5910 +1V8_DVI
5911 +1V8_CORE
2903 100n
2904 47u 16V
+3V3_IO
F901
+1V8_CORE
F902
7801-13 GM1501-LF-BD
SUPPLY
IO_3.3
CORE_1.8
D_GND
I905
B2
KEYBOARD
4900 RES
+3V3_LBADC
2940 47u 16V
2941 100n
7801-3 GM1501-LF-BD
ADC
LBADC_IN1
LBADC_IN2
LBADC_IN3
LBADC_RETURN
LBADC_GND
2942 100n
7801-14 GM1501-LF-BD
NC
F903
+1V8_DVI
+3V3_DVI
F904
B14
TO DIGITAL-IO (SCART ONLY)
SCL_DVI
SDA_DVI
RXC+IN
RXC-IN
RX0+IN
RX0-IN
RX1+IN
RX1-IN
RX2+IN
RX2-IN
DVI
DVI_1.8
DVI_3.3
DVI_SCL|GPI_07
DVI_SDA|GPI_08
RXCp
RXCn
RX0p
RX0n
RX1p
RX1n
RX2p
RX2n
REXT
7801-2 GM1501-LF-BD
DVI_GND
I906
7801-10 GM1501-LF-BD
DISPLAY PWR
LVDSA_GND_1
LVDSA_GND_2
LVDSA_GND_3
LVDSB_GND_1
LVDSB_GND_2
LVDSB_GND_3
VSSD33_LVDS
VDDD33_LVDS
LVDSA_3.3_3
LVDSA_3.3_2
LVDSA_3.3_1
LVDSB_3.3_3
LVDSB_3.3_2
LVDSB_3.3_1
+3V3_LVDS
F905
+3V3_LVDSA
F906
+3V3_LVDSB
F907
B13
TO MUX-SYNC INTERFACE
B18
ADC
B19 & B2
TO COLUMBUS
HERCULES
+3V3STBY
3901 RES
3902 RES
+1V8_ADC
+3V3_ADC
F908
F909
2955 22u 16V
7801-1 GM1501-LF-BD
ANA-IN
ADC_1.8
ADC_3.3
AVSYNC
AHSYNC
SCL
SDA
3903 100R
3904 100R
VGA_SCL|GPI_05
VGA_SDA|GPI_06
SOG
R_PR+
R_PR-
G_Y+
G_Y-
B_PB+
B_PB-
REDp
REDn
GREENp
GREENn
BLUEp
BLUEn
ADC_AGND
ADC_DGND
F910
B16
7801-7 GM1501-LF-BD
CTRL
3900 3K3
I904
OEXTR
FAN_SPEED
PWM0|GPIO_10
HD_FILTER
PWM1|GPIO_11
PPWR|GPIO_08
PBIAS|GPIO_09
DCLK|GPIO_17
PWM2|GPIO_12
NC
I903
FROM DC-DC CONVERTER
B6
PANEL-PWR-CTL
LAMP_ON_OFF
BU_LHT_ADJ2
(RES)
B16
TO TOP CONN.
3139 123 6093.1
F_15430_008.eps
150405

2900	D1
2901	D2
2902	D2
2903	E1
2904	E2
2905	A4
2906	A4
2907	A4
2908	A4
2909	A4
2910	A5
2911	A5
2912	A5
2913	A5
2914	A6
2915	A6
2916	A6
2917	A7
2918	A7
2919	A7
2920	A7
2921	A7
2922	A8
2923	A8
2924	A8
2925	A8
2926	A9
2927	A9
2928	A9
2929	A9
2930	C5
2931	C5
2932	C5
2933	C5
2934	C7
2935	C7
2936	C7
2937	C8
2938	C8
2939	C8
2940	B9
2941	B10
2942	C9
2945	D10
2946	D11
2947	D11
2948	D11
2949	D11
2950	D10
2951	D11
2952	D11
2953	E8
2954	E8
2955	E10
2956	E10
2957	E10
2958	E11
2959	E11
3900	F4
3901	E8
3902	E8
3903	F8
3904	F8
4900	B9
5900	A1
5901	B1
5902	B1
5903	B1
5904	B1
5905	C1
5906	C1
5907	C1
5908	C2
5909	D2
5910	E2
5911	E2
7801-1	F9
7801-10	C9
7801-13	B6
7801-14	A10
7801-2	C8
7801-3	B10
7801-7	F5
7900	C1
7901	D1
F900	B2
F901	A4
F902	A7
F903	C5
F904	C7
F905	D10
F906	D10
F907	D10
F908	E9
F909	E10
F910	G9
I900	C2
I901	E1
I902	E2
I903	G6
I904	F4
I905	C4
I906	E6

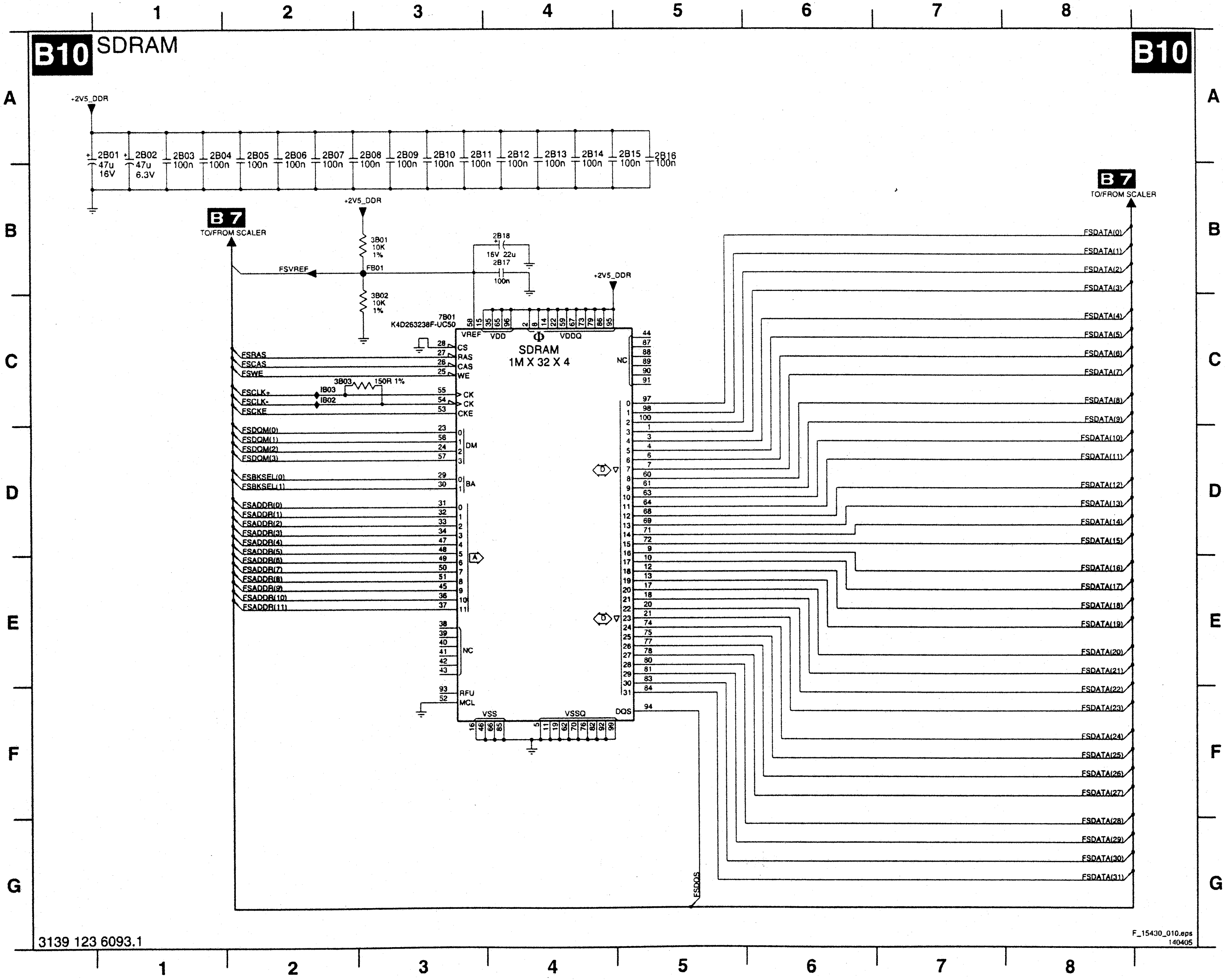
SSB: Scaler Interface


B9
SCALER INTERFACE
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
7801-8
GM1501-LF-BD
ACp|GPIO_G06_B6|DORED8 AE20
ACn|GPIO_G06_B7|DORED9 AF20
A3p|GPIO_G08_B4|DORED6 AE19
A3n|GPIO_G08_B5|DORED7 AF19
A2p|GPIO_G05_B1|DOGRN3 AE21
A2n|GPIO_G05_B2|DOGRN4 AF21
A1p|GPIO_G05_B4|DOGRN6 AE22
A1n|GPIO_G05_B5|DOGRN7 AF22
A0p|GPIO_G05_B6|DOGRN8 AE23
A0n|GPIO_G05_B7|DOGRN9 AF23
SHIELD5|DEBLU5 AD14
SHIELD4|DEBLU2 AE13
SHIELD3|DEGRN5 AE11
SHIELD2|DEGRN4 AD11
SHIELD1|DEGRN3 AC11
SHIELD0|DEGRN2 AF10
NC
BCp|DEGRN8 AE12
BCn|DEGRN9 AF13
B3p|DEGRN6 AF11
B3n|DEGRN7 AF12
B2p|DEBLU3 AF14
B2n|DEBLU4 AE14
B1p|DEBLU6 AF15
B1n|DEBLU7 AE15
B0p|DEBLU8 AF16
B0n|DEBLU9 AE16
LVDS
TXBC+
TXBC-
TXB3+
TXB3-
TXB2+
TXB2-
TXB1+
TXB1-
TXB0+
TXB0-
B20 TO EPLD
B7 TO SCALER
BU_LHT_ADJ1
3A02 1K0
RESERVED
IA07
4A02 RES
IA05
BACKLIGHT_DIM
B20 FROM EPLD
RES +5VSWI
3A03 RES
3A05 RES
7A01 SI2301DS-T1
3A04 1K0
IA06
3A06 10K
IA00
2A03 1u0
4A03
BACKLIGHT_CTRL
B16 TO TOP CONNECTORS
FOR PDP ONLY
+3V3SW
3A07 10K
3A08 10K
2A00 100n
5A00
7A00 PCA9515ADP
VCC
SDA1
SDA0
SCL1
SCL0
NC
EN
GND
B21 TO EPLD
SDA_DMA_BUS1_DISP
SCL_DMA_BUS1_DISP
3A00 68R
3A01 68R
IA08
IA09
2A01 100p
2A02 100p
4A04 (PDP)
4A00 RES
4A01 RES
SDA_IO
SCL_IO
BUF_ENABLE
B2 FROM HERCULES
SC_STANDBY
FOR UFD ONLY
+3V3STBY
2A13 100n
3A13 10K
3A11 4K7
+5V
3A14 4K7
7A03 BC847BW
7A02 BC847BW
3A10 10K
IA03
2A12 10n
6A01 BZX384-C3V9
STANDBY
4A05
4A06
3139 123 6093.1
F_15430_009.eps
140405

BACKLIGHT CONTROL				
	5V DC	5V PWM	3V3 DC	3V3 PWM
3A03	390R	390R	-	-
3A05	-	-	-	-
3A04	1K	1K	-	-
7A01	Y	Y	-	-
4A03	-	-	Y	Y
3A06	10K	0R	10K	0R
2A03	1u	-	1u	-

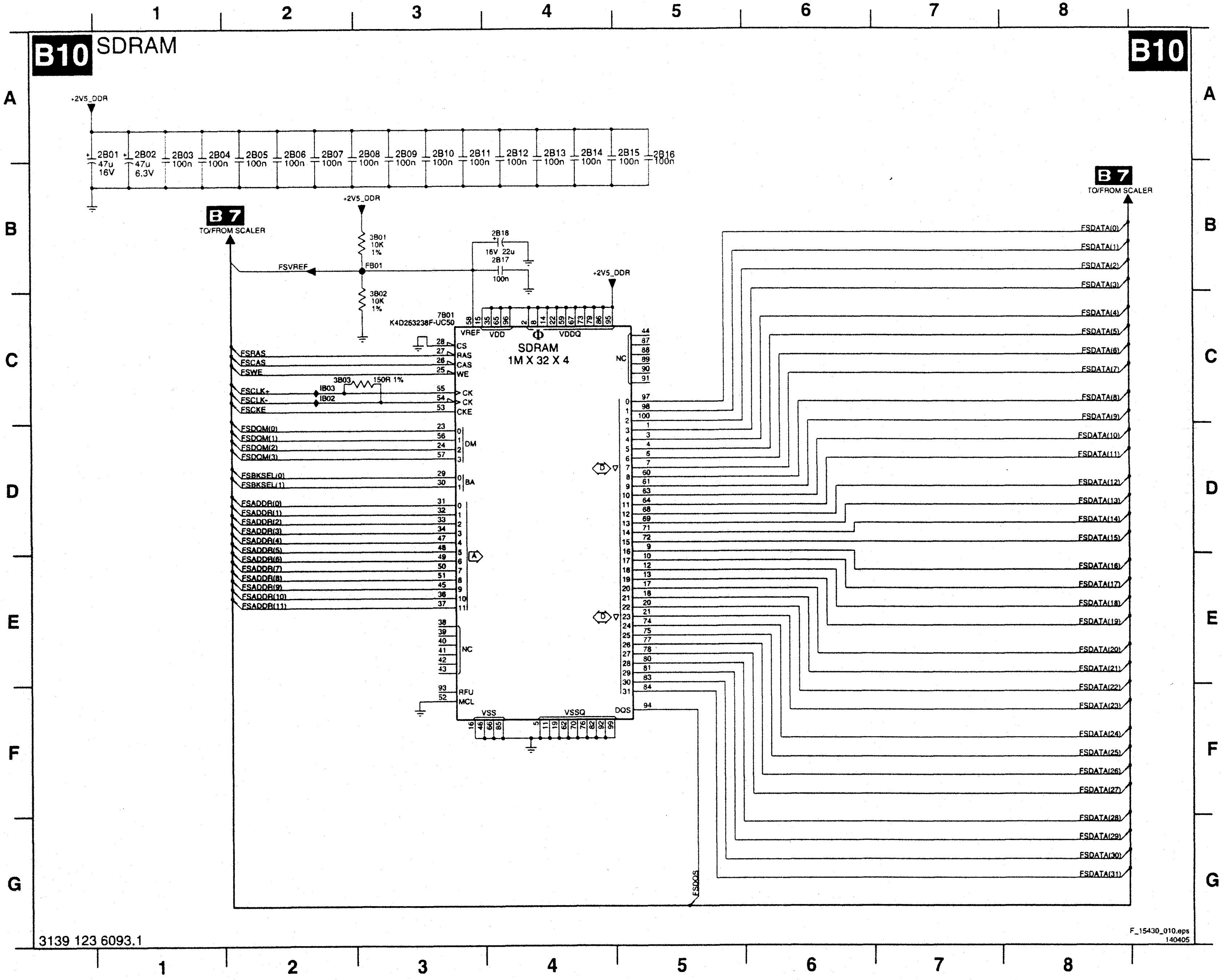
2A00	E3
2A01	F2
2A02	F2
2A03	C7
2A12	F6
2A13	E8
3A00	E2
3A01	E2
3A02	C5
3A03	C6
3A04	C6
3A05	C6
3A06	C7
3A07	E2
3A08	E2
3A10	F6
3A11	E7
3A13	E8
3A14	E9
4A00	F3
4A01	F3
4A02	B6
4A03	D6
4A04	F4
4A05	F6
4A06	F8
5A00	E3
6A01	F8
7801-8	A2
7A00	E4
7A01	C6
7A02	F6
7A03	E8
IA00	C7
IA03	F6
IA05	B8
IA06	C7
IA07	B6
IA08	E3
IA09	E3

SSB: SDRAM


B10 SDRAM
B10
+2V5_DDR
2B01 47u 16V
2B02 47u 6.3V
2B03 100n
2B04 100n
2B05 100n
2B06 100n
2B07 100n
2B08 100n
2B09 100n
2B10 100n
2B11 100n
2B12 100n
2B13 100n
2B14 100n
2B15 100n
2B16 100n
B 7 TO/FROM SCALER
3B01 10K 1%
3B02 10K 1%
FB01
FSVREF
2B18 16V 22u
2B17 100n
7B01 K4D263238F-UC50
SDRAM 1M X 32 X 4
VREF VDD VDDQ
CS RAS CAS WE
CK CK CKE
DM BA NC RFU MCL
VSS VSSQ DQS
3B03 150R 1%
IB03
IB02
FSRAS
FSCAS
FSWE
FSCLK+
FSCLK-
FSCKE
FSDQM(0)
FSDQM(1)
FSDQM(2)
FSDQM(3)
FSBKSEL(0)
FSBKSEL(1)
FSADDR(0)
FSADDR(1)
FSADDR(2)
FSADDR(3)
FSADDR(4)
FSADDR(5)
FSADDR(6)
FSADDR(7)
FSADDR(8)
FSADDR(9)
FSADDR(10)
FSADDR(11)
FSDATA(0)
FSDATA(1)
FSDATA(2)
FSDATA(3)
FSDATA(4)
FSDATA(5)
FSDATA(6)
FSDATA(7)
FSDATA(8)
FSDATA(9)
FSDATA(10)
FSDATA(11)
FSDATA(12)
FSDATA(13)
FSDATA(14)
FSDATA(15)
FSDATA(16)
FSDATA(17)
FSDATA(18)
FSDATA(19)
FSDATA(20)
FSDATA(21)
FSDATA(22)
FSDATA(23)
FSDATA(24)
FSDATA(25)
FSDATA(26)
FSDATA(27)
FSDATA(28)
FSDATA(29)
FSDATA(30)
FSDATA(31)
FSDQS
3139 123 6093.1
F_15430_010.eps 140405
1 2 3 4 5 6 7 8
A B C D E F G

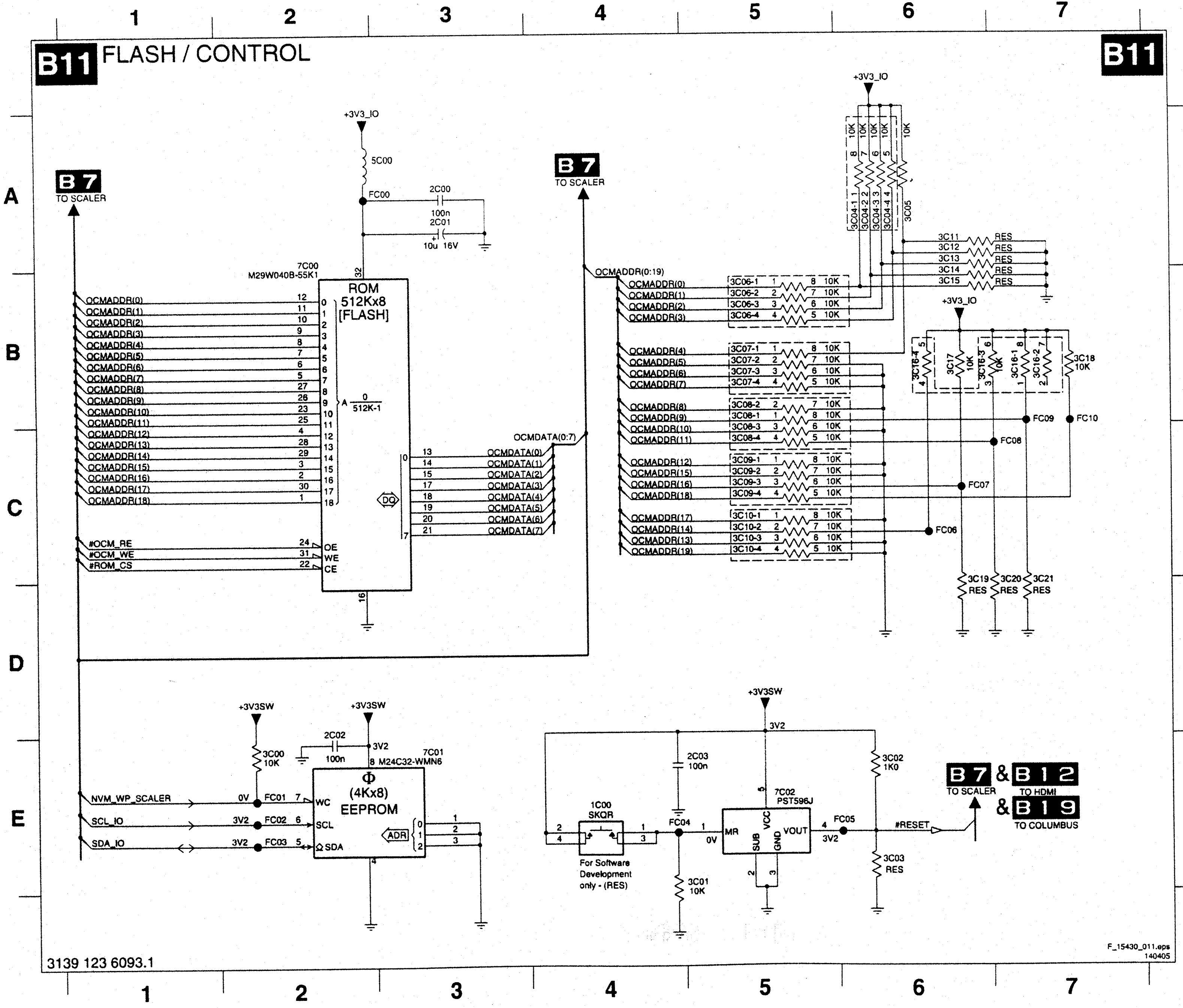
2B01 A1
2B02 A1
2B03 A1
2B04 A1
2B05 A2
2B06 A2
2B07 A2
2B08 A3
2B09 A3
2B10 A3
2B11 A3
2B12 A4
2B13 A4
2B14 A4
2B15 A5
2B16 A5
2B17 B4
2B18 B4
3B01 B3
3B02 B3
3B03 C2
7B01 C3
FB01 B3
IB02 C2
IB03 C2

SSB: SDRAM


B10 SDRAM
B10
+2V5_DDR
2B01 47u 16V
2B02 47u 6.3V
2B03 100n
2B04 100n
2B05 100n
2B06 100n
2B07 100n
2B08 100n
2B09 100n
2B10 100n
2B11 100n
2B12 100n
2B13 100n
2B14 100n
2B15 100n
2B16 100n
B 7 TO/FROM SCALER
3B01 10K 1%
3B02 10K 1%
FB01
FSVREF
2B18 16V 22u
2B17 100n
7B01 K4D263238F-UC50
VREF
VDD
VDDQ
SDRAM 1M X 32 X 4
CS
RAS
CAS
WE
CK
CK
CKE
DM
BA
A
NC
RFU
MCL
VSS
VSSQ
DQS
D
FSRAS
FSCAS
FSWE
3B03 150R 1%
IB03
IB02
FSCLK+
FSCLK-
FSCKE
FSDQM(0)
FSDQM(1)
FSDQM(2)
FSDQM(3)
FSBKSEL(0)
FSBKSEL(1)
FSADDR(0)
FSADDR(1)
FSADDR(2)
FSADDR(3)
FSADDR(4)
FSADDR(5)
FSADDR(6)
FSADDR(7)
FSADDR(8)
FSADDR(9)
FSADDR(10)
FSADDR(11)
FSDATA(0)
FSDATA(1)
FSDATA(2)
FSDATA(3)
FSDATA(4)
FSDATA(5)
FSDATA(6)
FSDATA(7)
FSDATA(8)
FSDATA(9)
FSDATA(10)
FSDATA(11)
FSDATA(12)
FSDATA(13)
FSDATA(14)
FSDATA(15)
FSDATA(16)
FSDATA(17)
FSDATA(18)
FSDATA(19)
FSDATA(20)
FSDATA(21)
FSDATA(22)
FSDATA(23)
FSDATA(24)
FSDATA(25)
FSDATA(26)
FSDATA(27)
FSDATA(28)
FSDATA(29)
FSDATA(30)
FSDATA(31)
FSDQS
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
3139 123 6093.1
F_15430_010.eps 140405

2B01	A1
2B02	A1
2B03	A1
2B04	A1
2B05	A2
2B06	A2
2B07	A2
2B08	A3
2B09	A3
2B10	A3
2B11	A3
2B12	A4
2B13	A4
2B14	A4
2B15	A5
2B16	A5
2B17	B4
2B18	B4
3B01	B3
3B02	B3
3B03	C2
7B01	C3
FB01	B3
IB02	C2
IB03	C2

SSB: Flash / Control

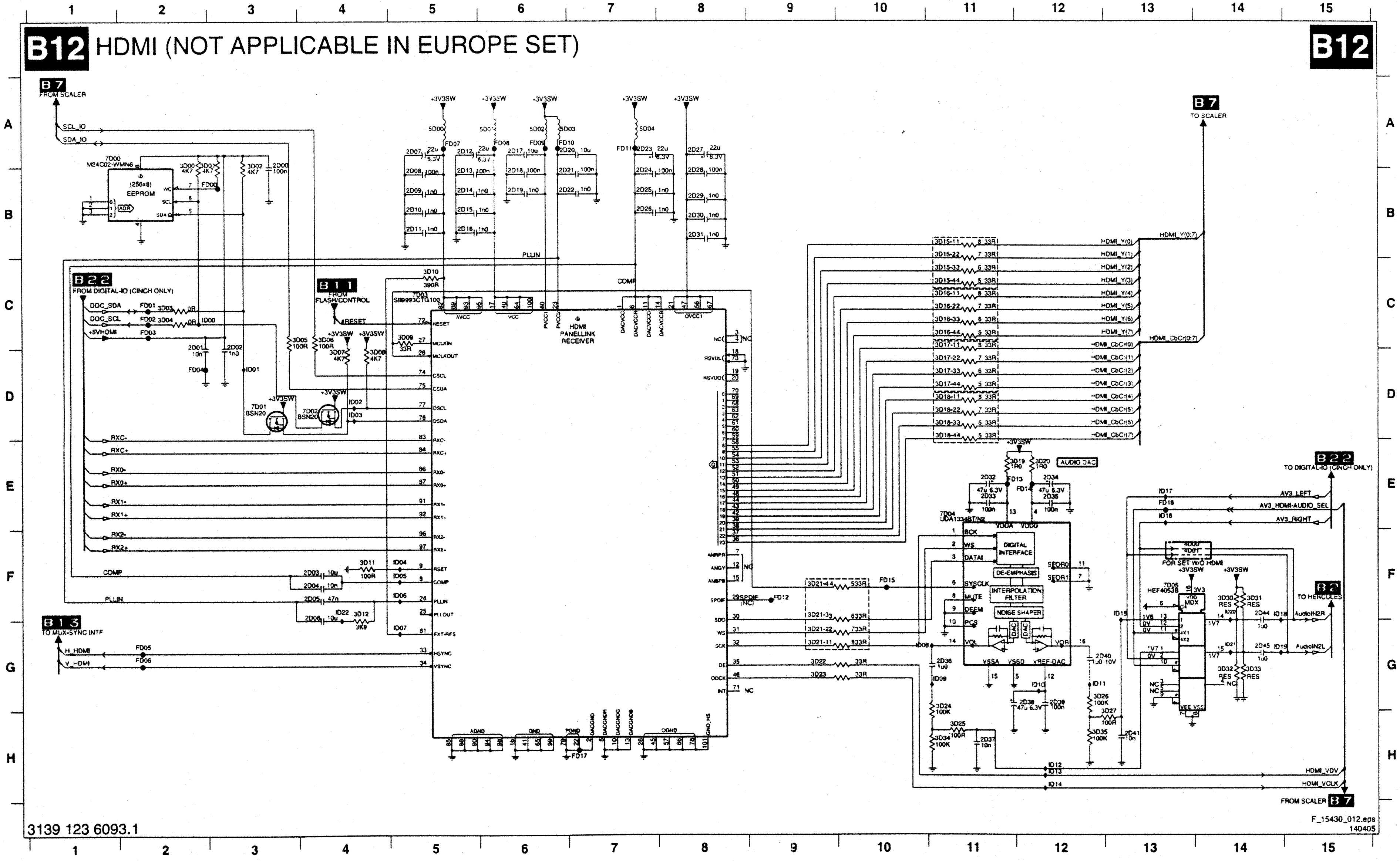

1
2
3
4
5
6
7
A
B
C
D
E
B11 FLASH / CONTROL
B11
B 7
TO SCALER
+3V3_IO
5C00
FC00
2C00
100n
2C01
10u 16V
7C00
M29W040B-55K1
32
ROM
512Kx8
[FLASH]
A 0/512K-1
DQ
16
OCMADDR(0)
OCMADDR(1)
OCMADDR(2)
OCMADDR(3)
OCMADDR(4)
OCMADDR(5)
OCMADDR(6)
OCMADDR(7)
OCMADDR(8)
OCMADDR(9)
OCMADDR(10)
OCMADDR(11)
OCMADDR(12)
OCMADDR(13)
OCMADDR(14)
OCMADDR(15)
OCMADDR(16)
OCMADDR(17)
OCMADDR(18)
#OCM_RE
#OCM_WE
#ROM_CS
OE
WE
CE
OCMDATA(0:7)
OCMDATA(0)
OCMDATA(1)
OCMDATA(2)
OCMDATA(3)
OCMDATA(4)
OCMDATA(5)
OCMDATA(6)
OCMDATA(7)
OCMADDR(0:19)
OCMADDR(19)
3C04-1
3C04-2
3C04-3
3C04-4
3C05
10K
3C06-1
3C06-2
3C06-3
3C06-4
3C07-1
3C07-2
3C07-3
3C07-4
3C08-1
3C08-2
3C08-3
3C08-4
3C09-1
3C09-2
3C09-3
3C09-4
3C10-1
3C10-2
3C10-3
3C10-4
3C11 RES
3C12 RES
3C13 RES
3C14 RES
3C15 RES
3C16-1
3C16-2
3C16-3
3C16-4
3C17 10K
3C18 10K
3C19 RES
3C20 RES
3C21 RES
FC06
FC07
FC08
FC09
FC10
+3V3SW
3C00
10K
2C02
100n
3V2
7C01
M24C32-WMN6
Φ
(4Kx8)
EEPROM
ADR
NVM_WP_SCALER
SCL_IO
SDA_IO
0V
FC01
FC02
FC03
WC
SCL
SDA
2C03
100n
1C00
SKQR
For Software
Development
only - (RES)
FC04
3C01
10K
7C02
PST596J
MR
VCC
VOUT
SUB
GND
FC05
3C02
1K0
3C03
RES
#RESET
B 7 & B 12
TO SCALER
TO HDMI
& B 19
TO COLUMBUS
3139 123 6093.1
F_15430_011.eps
140405

1C00	E4
2C00	A3
2C01	A3
2C02	E2
2C03	E5
3C00	E2
3C01	E5
3C02	E6
3C03	E6
3C04-1	A6
3C04-2	A6
3C04-3	A6
3C04-4	A6
3C05	A6
3C06-1	B5
3C06-2	B5
3C06-3	B5
3C06-4	B5
3C07-1	B5
3C07-2	B5
3C07-3	B5
3C07-4	B5
3C08-1	B5
3C08-2	B5
3C08-3	C5
3C08-4	C5
3C09-1	C5
3C09-2	C5
3C09-3	C5
3C09-4	C5
3C10-1	C5
3C10-2	C5
3C10-3	C5
3C10-4	C5
3C11	A6
3C12	A6
3C13	A6
3C14	B6
3C15	B6
3C16-1	B7
3C16-2	B7
3C16-3	B6
3C16-4	B6
3C17	B6
3C18	B7
3C19	C6
3C20	C7
3C21	C7
5C00	A3
7C00	A2
7C01	E3
7C02	E5
FC00	A3
FC01	E2
FC02	E2
FC03	E2
FC04	E4
FC05	E6
FC06	C6
FC07	C6
FC08	C7
FC09	B7
FC10	B7

SSB: HDMI (N.A.)

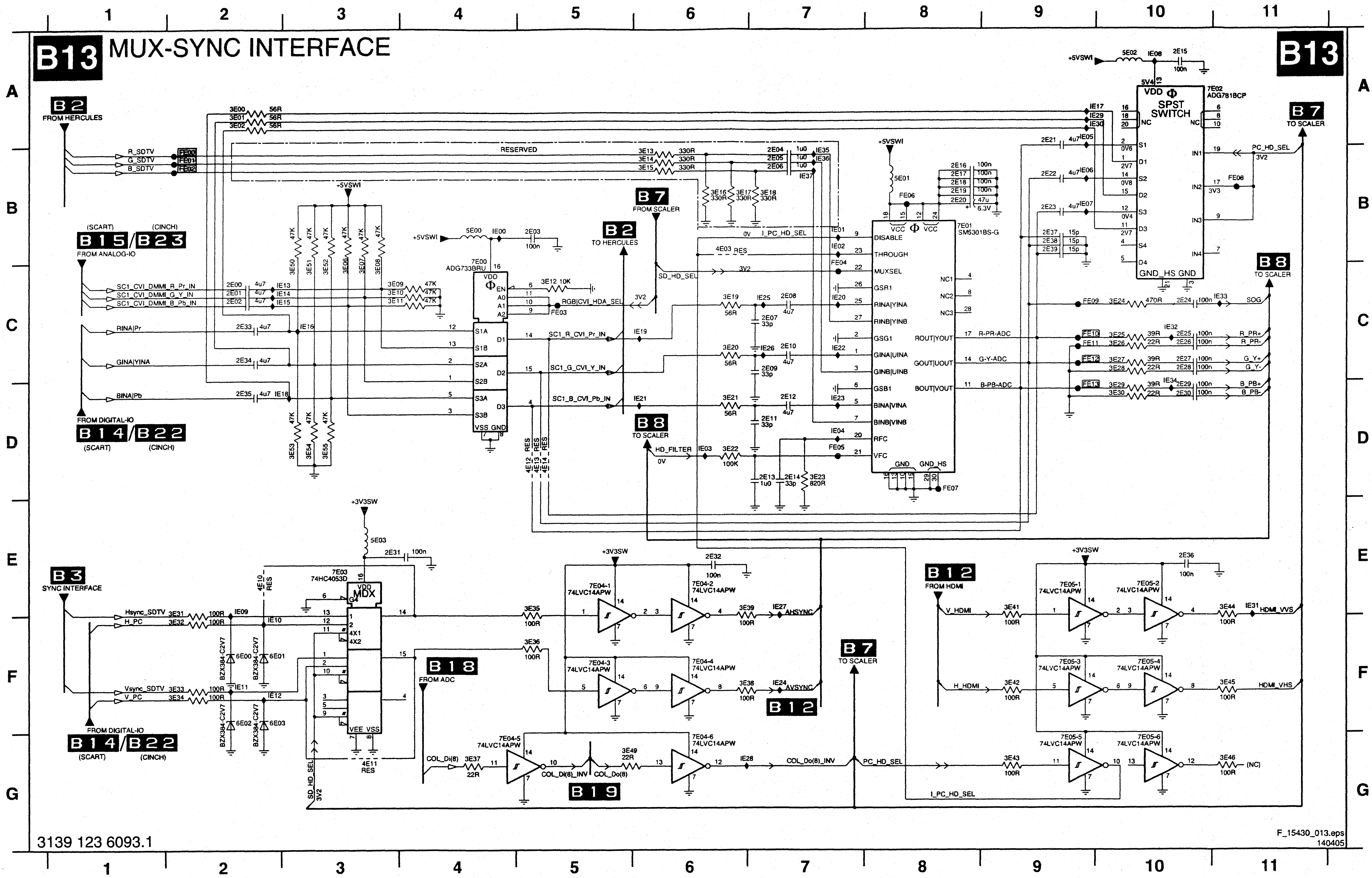
2D00 A3
2D01 C2
2D02 C3
2D03 F4
2D04 F4
2D05 F4
2D06 F4
2D07 A5
2D08 B5
2D09 B5
2D10 B5
2D11 B5
2D12 A5
2D13 B6
2D14 B5
2D15 B5
2D16 B5
2D17 A6
2D18 B6
2D19 B6
2D20 A7
2D21 B6
2D22 B6
2D23 A7
2D24 B7
2D25 B7
2D26 B7
2D27 A8
2D28 B8
2D29 B8
2D30 B8
2D31 B8
2D32 E11
2D33 E11
2D34 E12
2D35 E12
2D36 G11
2D37 H11
2D38 G12
2D39 G12
2D40 G12
2D41 H13
2D44 F14
2D45 G14
3D00 A2
3D01 A3
3D02 A3
3D03 C2
3D04 C2
3D05 C4
3D06 C4
3D07 D4
3D08 D4
3D09 C5
3D10 C5
3D11 F4
3D12 F4
3D15-1 B11
3D15-2 B11
3D15-3 C11
3D15-4 C11
3D16-1 C11
3D16-2 C11
3D16-3 C11
3D16-4 C11
3D17-1 C11
3D17-2 D11
3D17-3 D11
3D17-4 D11
3D18-1 D11
3D18-2 D11
3D18-3 D11
3D18-4 D11
3D19 E12
3D20 E12
3D21-1 G9
3D21-2 G9
3D21-3 F9
3D21-4 F9
3D22 G9
3D23 G9
3D24 G11
3D25 H11
3D26 G12
3D27 H13
3D30 F14
3D31 F14
3D32 G14
3D33 G14
3D34 H11
3D35 H12
4D00 F13
4D01 F13
5D00 A5
5D01 A6
5D02 A6
5D03 A7
5D04 A7
7D00 A2
7D01 D3
7D02 D4
7D03 C5
7D04 E11
7D05 F13
FD00 B3
FD01 C2
FD02 C2
FD03 C2
FD04 D2
FD05 G2
FD06 G2
FD07 A5
FD08 A6
FD09 A6
FD10 A6
FD11 A7
FD12 F9
FD13 E11
FD14 E12
FD15 F10
FD16 E13
FD17 H7
ID00 C3
ID01 D3
ID02 D4
ID03 D4
ID04 F5
ID05 F5
ID06 F5
ID07 G5
ID08 G10
ID09 G11
ID10 G12
ID11 G12
ID12 H12
ID13 H12
ID14 H12
ID15 F13
ID16 E13
ID17 E13
ID18 F14
ID19 G14
ID20 F14
ID21 G14
ID22 F4

B12 HDMI (NOT APPLICABLE IN EUROPE SET)



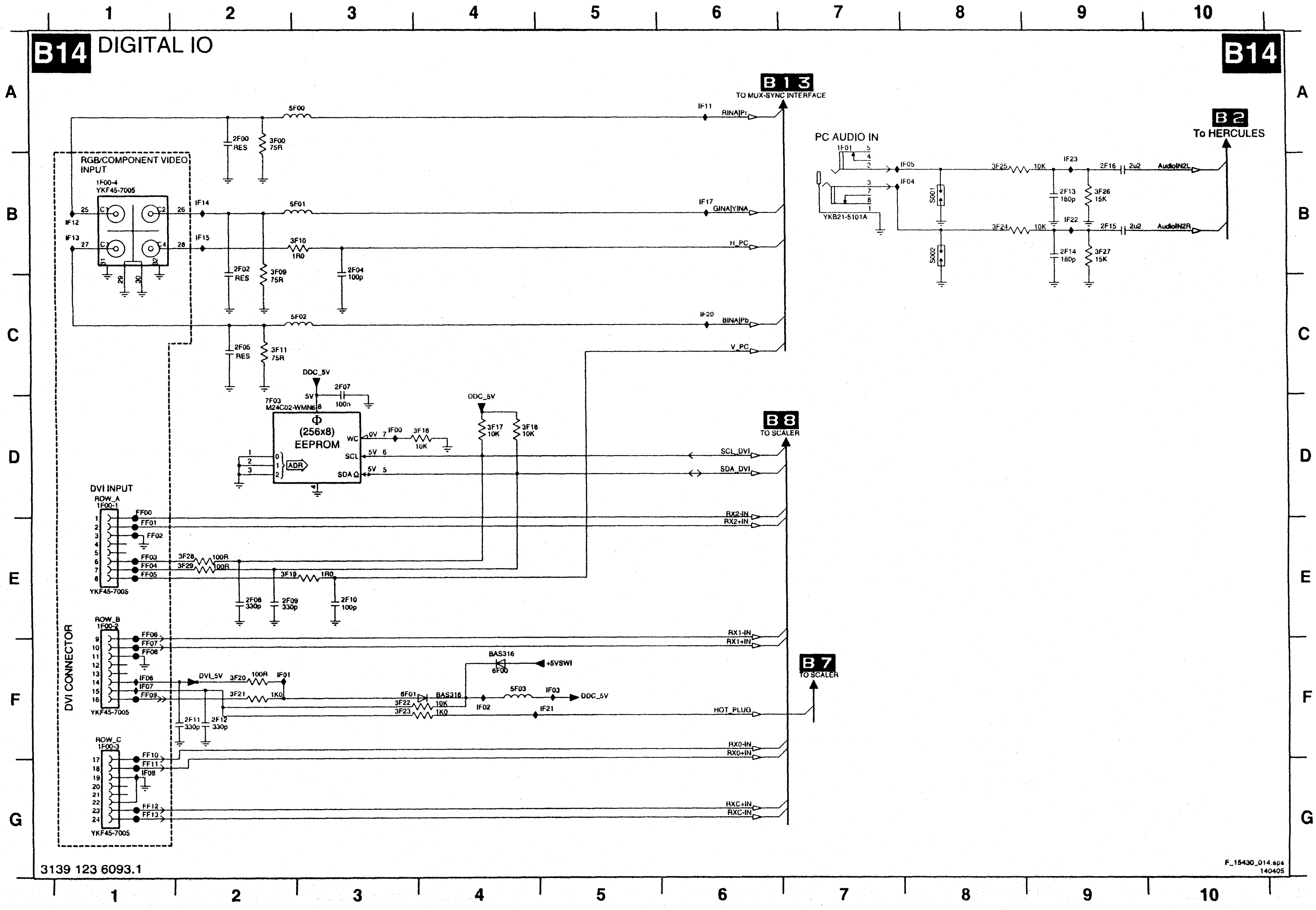
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H
B12
B7 FROM SCALER
SCL_IO
SDA_IO
7D00 M24C02-WMN6
(256x8) EEPROM
ADR
WC
SCL
SDA
3D00 4K7
3D01 4K7
3D02 4K7
2D00 100n
FD00
B22 FROM DIGITAL-IO (CINCH ONLY)
DDC_SDA
DDC_SCL
+5VHDMI
FD01
FD02
FD03
3D03 0R
3D04 0R
ID00
2D01 10n
2D02 1n0
FD04
ID01
B11 FROM FLASH/CONTROL
#RESET
3D05 100R
3D06 100R
3D07 4K7
3D08 4K7
3D09 33R
3D10 390R
7D01 BSN20
7D02 BSN20
ID02
ID03
+3V3SW
RXC-
RXC+
RX0-
RX0+
RX1-
RX1+
RX2-
RX2+
COMP
PLLIN
2D03 10u
2D04 10n
2D05 47n
2D06 10u
3D11 100R
3D12 3K9
ID04
ID05
ID06
ID07
ID22
B13 TO MUX+SYNC INTF
H_HDMI
V_HDMI
FD05
FD06
5D00
5D01
5D02
5D03
5D04
FD07
FD08
FD09
FD10
FD11
2D07 22u 6.3V
2D08 100n
2D09 1n0
2D10 1n0
2D11 1n0
2D12 22u 6.3V
2D13 100n
2D14 1n0
2D15 1n0
2D16 1n0
2D17 10u
2D18 100n
2D19 1n0
2D20 10u
2D21 100n
2D22 1n0
2D23 22u 6.3V
2D24 100n
2D25 1n0
2D26 1n0
2D27 22u 6.3V
2D28 100n
2D29 1n0
2D30 1n0
2D31 1n0
7D03 SII9993CTG100
HDMI PANELLINK RECEIVER
RESET
MCLKIN
MCLKOUT
CSCL
CSDA
DSCL
DSDA
RXC-
RXC+
RX0-
RX0+
RX1-
RX1+
RX2-
RX2+
RSET
COMP
PLLIN
PLLOUT
EXT-RES
HSYNC
VSYNC
AVCC
VCC
PVCC1
PVCC2
DACVCC
DACVCCR
DACVCCG
DACVCCB
OVCC1
NC
RSVDL
RSVDO
AMNPR
ANGY
ANBPB
SPDIF
SDO
WS
SCK
DE
ODCK
INT
AGND
GND
PGND
DACGNDR
DACGNDG
DACGNDB
OGND
FD17
3D15-1 8 33R
3D15-2 7 33R
3D15-3 6 33R
3D15-4 5 33R
3D16-1 8 33R
3D16-2 7 33R
3D16-3 6 33R
3D16-4 5 33R
3D17-1 8 33R
3D17-2 7 33R
3D17-3 6 33R
3D17-4 5 33R
3D18-1 8 33R
3D18-2 7 33R
3D18-3 6 33R
3D18-4 5 33R
HDMI_Y(0)
HDMI_Y(1)
HDMI_Y(2)
HDMI_Y(3)
HDMI_Y(4)
HDMI_Y(5)
HDMI_Y(6)
HDMI_Y(7)
HDMI_Y(0:7)
HDMI_CbCr(0)
HDMI_CbCr(1)
HDMI_CbCr(2)
HDMI_CbCr(3)
HDMI_CbCr(4)
HDMI_CbCr(5)
HDMI_CbCr(6)
HDMI_CbCr(7)
HDMI_CbCr(0:7)
B7 TO SCALER
3D21-4 533R
3D21-3 833R
3D21-2 733R
3D21-1 833R
FD12
FD15
3D22 33R
3D23 33R
AUDIO DAC
3D19 1R0
3D20 1R0
FD13
FD14
2D32 47u 6.3V
2D33 100n
2D34 47u 6.3V
2D35 100n
7D04 UDA1334BT/N2
VDDA
VDDD
BCK
WS
DATAI
SYSCLK
MUTE
DEEM
PCS
VOL
DIGITAL INTERFACE
DE-EMPHASIS
INTERPOLATION FILTER
NOISE SHAPER
DAC
SFOR0
SFOR1
VOR
VSSA
VSSD
VREF-DAC
2D36 1u0
2D37 10n
2D38 47u 6.3V
2D39 100n
2D40 1u0 10V
2D41 10n
3D24 100K
3D25 100R
3D26 100K
3D27 100R
3D34 100K
3D35 100K
ID08
ID09
ID10
ID11
ID12
ID13
ID14
B22 TO DIGITAL-IO (CINCH ONLY)
AV3_LEFT
AV3_HDMI-AUDIO_SEL
AV3_RIGHT
ID15
ID16
ID17
4D00 4D01
FOR SET W/O HDMI
7D05 HEF4053B
MDX
3D30 RES
3D31 RES
3D32 RES
3D33 RES
2D44 1u0
2D45 1u0
ID18
ID19
ID20
ID21
1V7
B2 TO HERCULES
AudioIN2R
AudioIN2L
HDMI_VDV
HDMI_VCLK
FROM SCALER B7
3139 123 6093.1
F_15430_012.eps 140405

SSB: MUX Sync Interface


B13 MUX-SYNC INTERFACE
B13
B2 FROM HERCULES
R_SDTV
G_SDTV
B_SDTV
B15/B23 FROM ANALOG-IO (SCART) (CINCH)
SC1_CVI_DMMI_R_Pr_IN
SC1_CVI_DMMI_G_Y_IN
SC1_CVI_DMMI_B_Pb_IN
RINA|Pr
GINA|YINA
BINA|Pb
FROM DIGITAL-IO
B14/B22 (SCART) (CINCH)
7E00 ADG733BRU
RESERVED
+5VSWI
B7 FROM SCALER
B2 TO HERCULES
B8 TO SCALER
SC1_R_CVI_Pr_IN
SC1_G_CVI_Y_IN
SC1_B_CVI_Pb_IN
RGB|CVI_HDA_SEL
SD_HD_SEL
HD_FILTER
7E01 SM5301BS-G
DISABLE
THROUGH
MUXSEL
R-PR-ADC
G-Y-ADC
B-PB-ADC
7E02 ADG781BCP
SPST SWITCH
B7 TO SCALER
PC_HD_SEL
SOG
R_PR+
R_PR-
G_Y+
G_Y-
B_PB+
B_PB-
B3 SYNC INTERFACE
Hsync_SDTV
H_PC
Vsync_SDTV
V_PC
7E03 74HC4053D
MDX
+3V3SW
7E04-1 74LVC14APW
7E04-2 74LVC14APW
7E04-3 74LVC14APW
7E04-4 74LVC14APW
7E04-5 74LVC14APW
7E04-6 74LVC14APW
AHSYNC
AVSYNC
B12
B18 FROM ADC
COL_Di(8)
COL_Di(8)_INV
COL_Do(8)
COL_Do(8)_INV
B19
B7 TO SCALER
PC_HD_SEL
I_PC_HD_SEL
B12 FROM HDMI
V_HDMI
H_HDMI
7E05-1 74LVC14APW
7E05-2 74LVC14APW
7E05-3 74LVC14APW
7E05-4 74LVC14APW
7E05-5 74LVC14APW
7E05-6 74LVC14APW
HDMI_VVS
HDMI_VHS
(NC)
3139 123 6093.1
F_15430_013.eps
140405

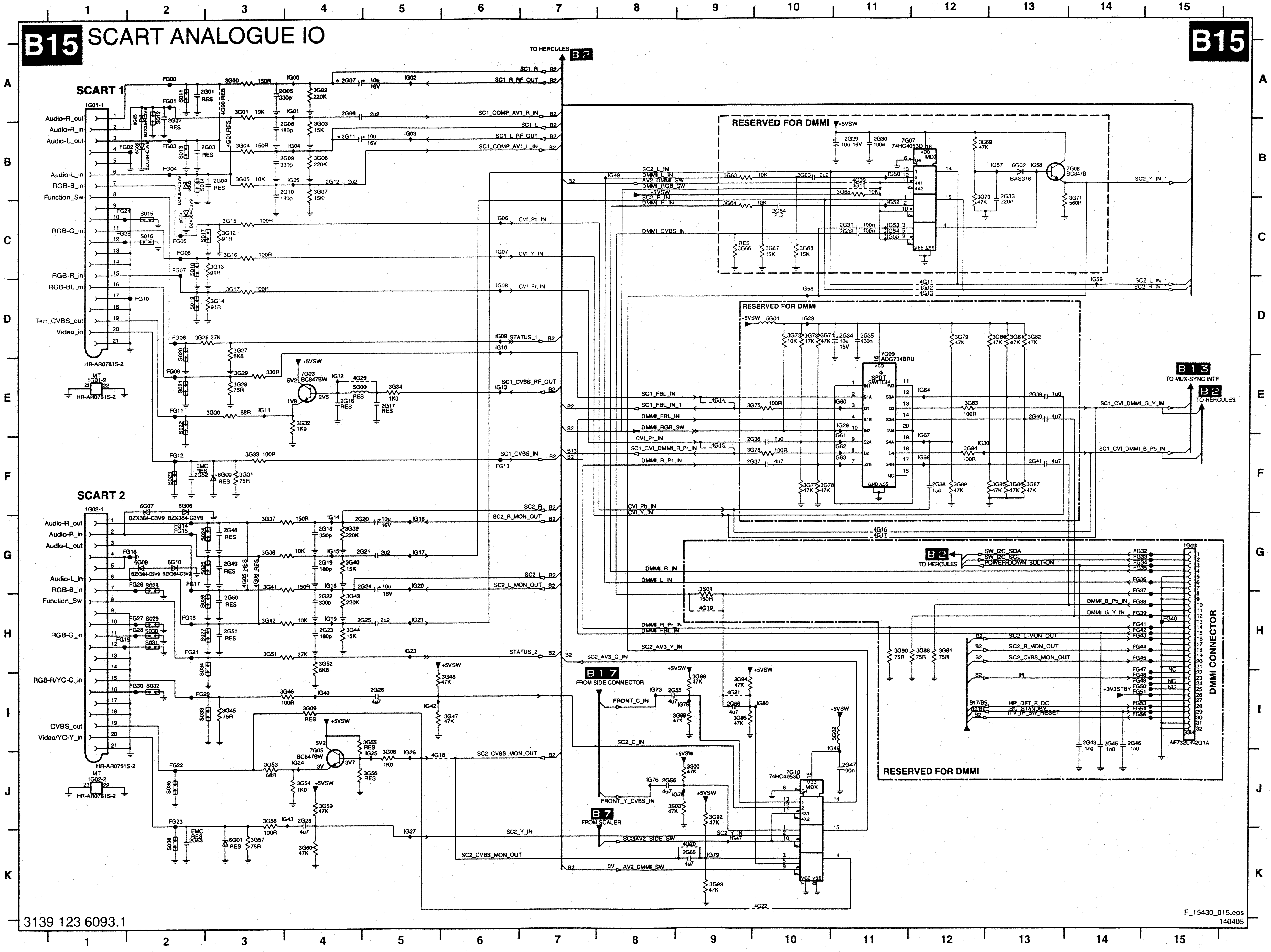
2E00	C2
2E01	C2
2E02	C2
2E03	B5
2E04	B7
2E05	B7
2E06	B7
2E07	C7
2E08	C7
2E09	C7
2E10	C7
2E11	D7
2E12	D7
2E13	D7
2E14	D7
2E15	A10
2E16	B8
2E17	B8
2E18	B8
2E19	B8
2E20	B8
2E21	A9
2E22	B9
2E23	B9
2E24	C10
2E25	C10
2E26	C10
2E27	C10
2E28	C10
2E29	D10
2E30	D10
2E31	E3
2E32	E6
2E33	C2
2E34	C2
2E35	D2
2E36	E10
2E37	B9
2E38	B9
2E39	B9
3E00	A2
3E01	A2
3E02	A2
3E06	C3
3E07	C3
3E08	C3
3E09	C3
3E10	C3
3E11	C3
3E12	C5
3E13	B6
3E14	B6
3E15	B6
3E16	B6
3E17	B6
3E18	B7
3E19	C6
3E20	C6
3E21	D6
3E22	D6
3E23	D7
3E24	C10
3E25	C10
3E26	C10
3E27	C10
3E28	C10
3E29	D10
3E30	D10
3E31	E2
3E32	F2
3E33	F2
3E34	F2
3E35	E5
3E36	F5
3E37	G4
3E38	F6
3E39	E6
3E41	E9
3E42	F9
3E43	G9
3E44	E11
3E45	F11
3E46	G11
3E49	G5
3E50	C3
3E51	C3
3E52	C3
3E53	D3
3E54	D3
3E55	D3
4E03	B6
4E10	E2
4E11	G3
4E12	D5
4E13	D5
4E14	D5
5E00	B4
5E01	B8
5E02	A10
5E03	E3
6E00	F2
6E01	F2
6E02	F2
6E03	F2
7E00	B4
7E01	B8
7E02	A10
7E03	E3
7E04-1	E5
7E04-2	E6
7E04-3	F5
7E04-4	F6
7E04-5	G5
7E04-6	G6
7E05-1	E9
7E05-2	E10
7E05-3	F9
7E05-4	F10
7E05-5	G9
7E05-6	G10
FE00	B2
FE01	B2
FE02	B2
FE03	C5
FE04	C7
FE05	D7
FE06	B8
FE07	D8
FE08	B11
FE09	C9
FE10	C9
FE11	C9
FE12	C9
FE13	D9
IE00	B4
IE01	B7
IE02	B7
IE03	D6
IE04	D7
IE05	A9
IE06	B9
IE07	B9
IE08	A10
IE09	E2
IE10	F2
IE11	F2
IE12	F2
IE13	C3
IE14	C3
IE15	C3
IE16	C3
IE17	A10
IE18	D2
IE19	C6
IE20	C7
IE21	D6
IE22	C7
IE23	D7
IE24	F7
IE25	C7
IE26	C7
IE27	E7
IE28	G6
IE29	A10
IE30	A10
IE31	E11
IE32	C10
IE33	C11
IE34	D10
IE35	B7
IE36	B7
IE37	B7

SSB: Digital I/O


B14 DIGITAL IO
B14
B13 TO MUX-SYNC INTERFACE
B2 To HERCULES
B8 TO SCALER
B7 TO SCALER
RGB/COMPONENT VIDEO INPUT
1F00-4
YKF45-7005
5F00
2F00 RES
3F00 75R
IF11 RINA|Pr
5F01
IF14
IF15
IF12
IF13
IF17 GINA|YINA
3F10 1R0
H_PC
2F02 RES
3F09 75R
2F04 100p
5F02
IF20 BINA|Pb
2F05 RES
3F11 75R
V_PC
DDC_5V
2F07 100n
7F03
M24C02-WMN6
(256x8)
EEPROM
ADR
WC
SCL
SDA
IF00
3F16 10K
3F17 10K
3F18 10K
SCL_DVI
SDA_DVI
DVI INPUT
ROW_A
1F00-1
FF00
FF01
FF02
FF03
FF04
FF05
3F28 100R
3F29 100R
3F19 1R0
2F08 330p
2F09 330p
2F10 100p
RX2-IN
RX2+IN
ROW_B
1F00-2
FF06
FF07
FF08
IF06
IF07
FF09
DVI CONNECTOR
DVI_5V
3F20 100R
IF01
3F21 1K0
2F11 330p
2F12 330p
BAS316
6F00
+5VSWI
6F01
BAS316
3F22 10K
3F23 1K0
IF02
5F03
IF03
DDC_5V
IF21
HOT_PLUG
RX1-IN
RX1+IN
ROW_C
1F00-3
FF10
FF11
IF08
FF12
FF13
RX0-IN
RX0+IN
RXC+IN
RXC-IN
YKF45-7005
PC AUDIO IN
1F01
YKB21-5101A
IF05
IF04
S001
S002
3F25 10K
3F24 10K
IF23
IF22
2F13 180p
2F14 180p
3F26 15K
3F27 15K
2F16 2u2
2F15 2u2
AudioIN2L
AudioIN2R
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
3139 123 6093.1
F_15430_014.eps
140405

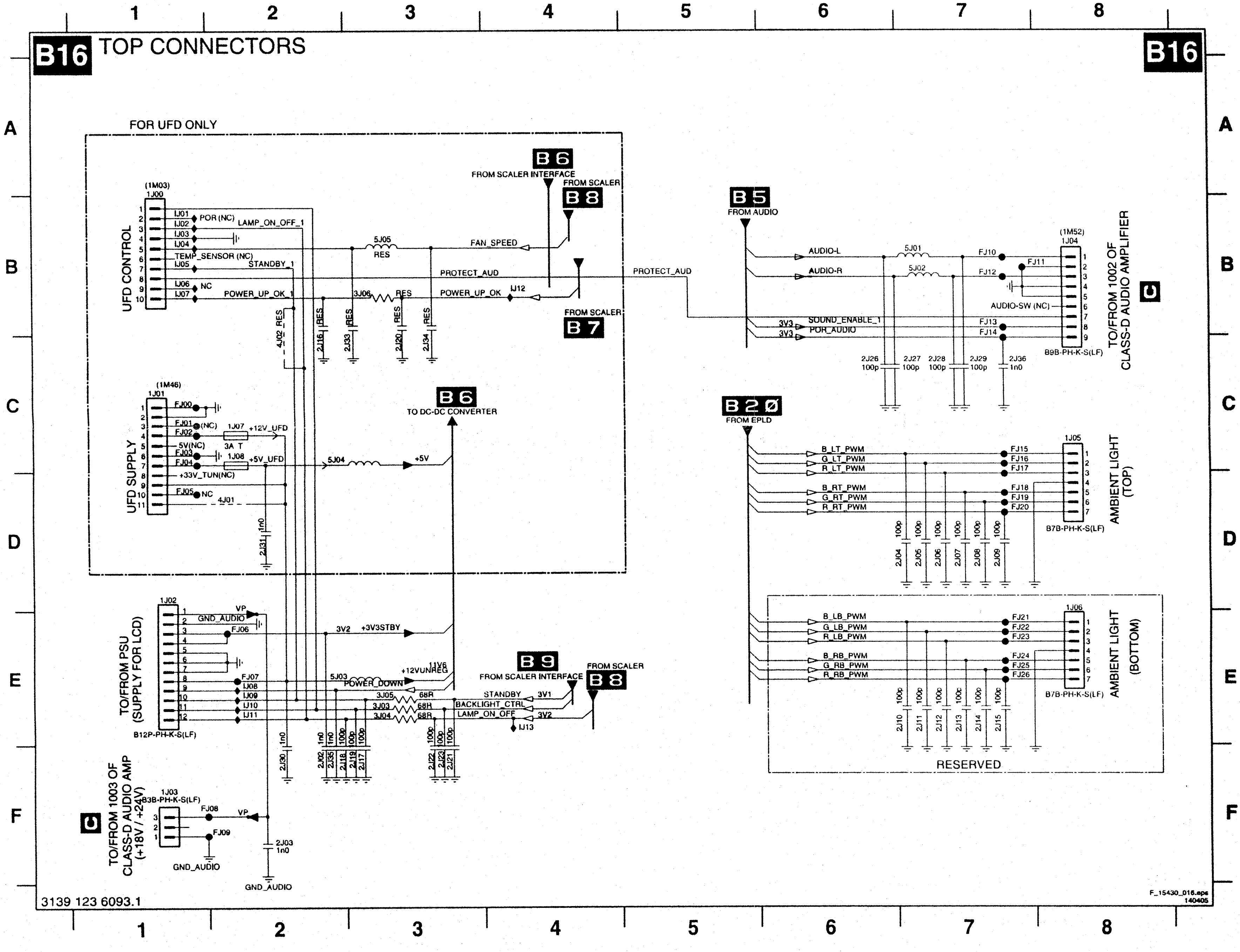
1F00-1	D1
1F00-2	E1
1F00-3	F1
1F00-4	B1
1F01	A7
2F00	A2
2F02	B2
2F04	B3
2F05	C2
2F07	C3
2F08	E2
2F09	E2
2F10	E3
2F11	F2
2F12	F2
2F13	B9
2F14	B9
2F15	B9
2F16	B9
3F00	A2
3F09	B2
3F10	B3
3F11	C2
3F16	D4
3F17	D4
3F18	D4
3F19	E2
3F20	F2
3F21	F2
3F22	F3
3F23	F3
3F24	B8
3F25	B8
3F26	B9
3F27	B9
3F28	E2
3F29	E2
5F00	A3
5F01	B3
5F02	C3
5F03	F4
6F00	F4
6F01	F3
7F03	D2
FF00	D1
FF01	E1
FF02	E1
FF03	E1
FF04	E1
FF05	E1
FF06	E1
FF07	F1
FF08	F1
FF09	F1
FF10	F1
FF11	G1
FF12	G1
FF13	G1
IF00	D3
IF01	F2
IF02	F4
IF03	F5
IF04	B8
IF05	B8
IF06	F1
IF07	F1
IF08	G1
IF11	A6
IF12	B1
IF13	B1
IF14	B2
IF15	B2
IF17	B6
IF20	C6
IF21	F5
IF22	B9
IF23	B9
S001	B8
S002	B8

SSB: Analog I/O


B15
SCART ANALOGUE IO
SCART 1
SCART 2
TO HERCULES
B2
RESERVED FOR DMMI
7G07 74HC4053D
7G08 BC847B
7G09 ADG734BRU
SPDT SWITCH
7G03 BC847BW
7G05 BC847BW
7G10 74HC4053D
B13 TO MUX-SYNC INTF
B17 FROM SIDE CONNECTOR
B7 FROM SCALER
DMMI CONNECTOR
AF732L-N2G1A
HR-AR0761S-2
Audio-R_out
Audio-R_in
Audio-L_out
Audio-L_in
RGB-B_in
Function_Sw
RGB-G_in
RGB-R_in
RGB-BL_in
Terr_CVBS_out
Video_in
RGB-R/YC-C_in
CVBS_out
Video/YC-Y_in
SC1_R
SC1_RF_OUT
SC1_COMP_AV1_R_IN
SC1_L
SC1_L_RF_OUT
SC1_COMP_AV1_L_IN
CVI_Pb_IN
CVI_Y_IN
CVI_Pr_IN
STATUS_1
SC1_CVBS_RF_OUT
SC1_CVBS_IN
SC2_R
SC2_R_MON_OUT
SC2_L
SC2_L_MON_OUT
STATUS_2
SC2_CVBS_MON_OUT
SC2_Y_IN
SC2_C_IN
SC2_AV3_C_IN
SC2_AV3_Y_IN
SC2_Y_IN_1
SC1_CVI_DMMI_G_Y_IN
SC1_CVI_DMMI_B_Pb_IN
FRONT_C_IN
FRONT_Y_CVBS_IN
SC2/AV2_SIDE_SW
AV2_DMMI_SW
SW_I2C_SDA
SW_I2C_SCL
POWER-DOWN_BOLT-ON
+5VSW
+3V3STBY
3139 123 6093.1
F_15430_015.eps
140405

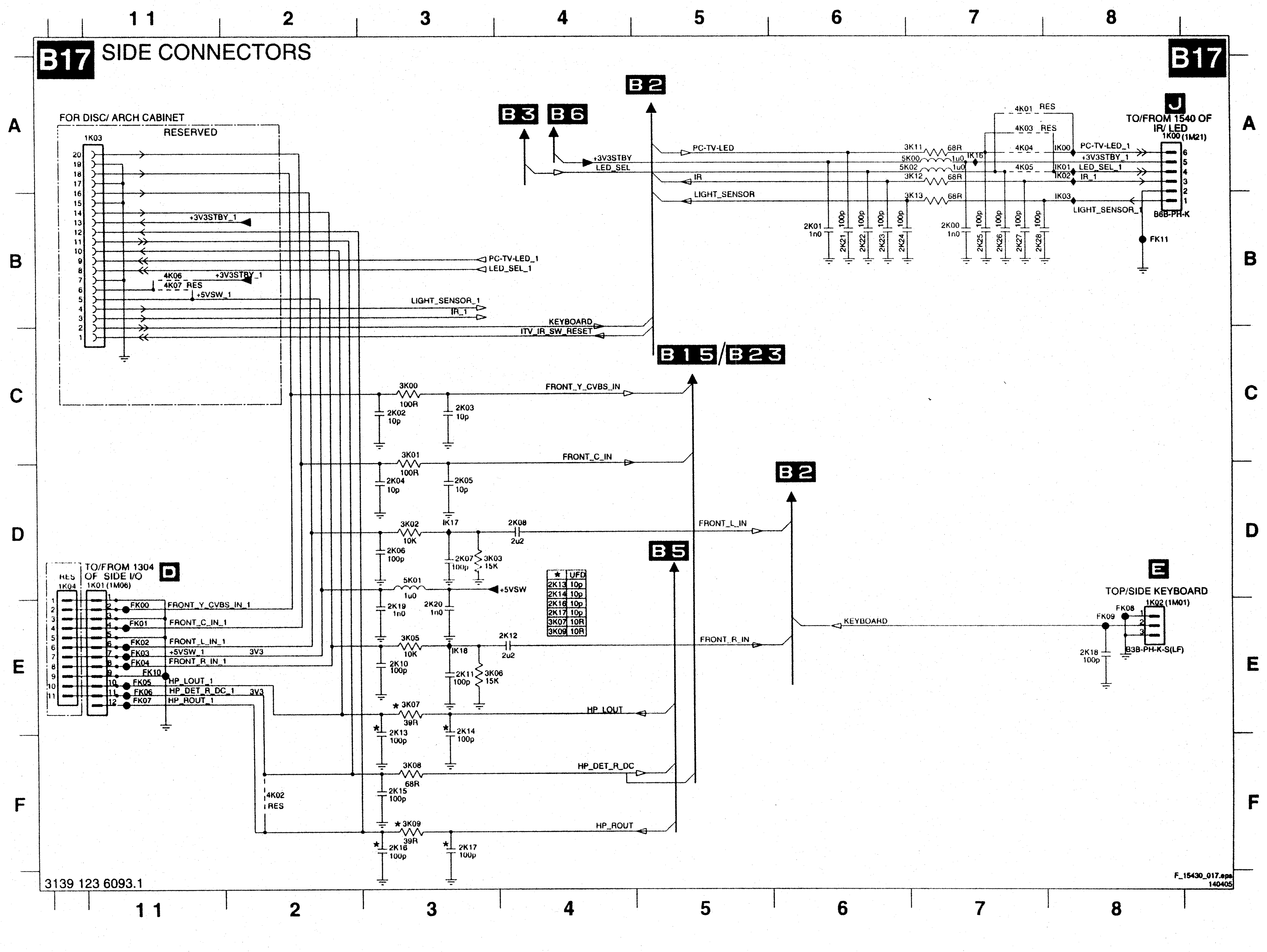
1G01-1	A1
1G01-2	E1
1G02-1	F1
1G02-2	J1
1G03	G15
2G01	A3
2G02	A2
2G03	B3
2G04	B3
2G05	A3
2G06	B3
2G07	A4
2G08	A4
2G09	B3
2G10	B3
2G11	B4
2G12	B4
2G16	E4
2G17	E5
2G18	G4
2G19	G4
2G20	G5
2G21	G4
2G22	H4
2G23	H4
2G24	G5
2G25	H4
2G26	I5
2G28	J4
2G29	B11
2G30	B11
2G31	C11
2G32	C11
2G33	C13
2G34	D11
2G35	D11
2G36	F9
2G37	F9
2G38	F12
2G39	E13
2G40	E13
2G41	F13
2G43	I14
2G45	I14
2G46	I14
2G47	J11
2G48	G3
2G49	G3
2G50	H3
2G51	H3
2G52	F2
2G53	K2
2G55	I8
2G56	J8
2G63	B10
2G64	C10
2G65	K9
2G66	I9
3G00	A3
3G01	A3
3G02	A4
3G03	B4
3G04	B3
3G05	B3
3G06	B4
3G07	B4
3G08	J5
3G09	I4
3G12	C3
3G13	C3
3G14	D3
3G15	C3
3G16	C3
3G17	D3
3G26	D2
3G27	D3
3G28	E3
3G29	E3
3G30	E3
3G31	F3
3G32	E4
3G33	F3
3G34	E5
3G37	G3
3G38	G3
3G39	G4
3G40	G4
3G41	G3
3G42	H3
3G43	H4
3G44	H4
3G45	I3
3G46	I3
3G47	I6
3G48	I6
3G51	H3
3G52	H4
3G53	J3
3G54	J4
3G55	I5
3G56	J5
3G57	K3
3G58	J3
3G59	J4
3G60	K4
3G63	B9
3G64	C9
3G65	B11
3G66	C9
3G67	C10
3G68	C10
3G69	B12
3G70	C12
3G71	C14
3G72	D10
3G73	D10
3G74	D10
3G75	E9
3G76	F9
3G77	F10
3G78	F10
3G79	D12
3G80	D13
3G81	D13
3G82	D13
3G83	E12
3G84	F12
3G85	F13
3G86	F13
3G87	F13
3G88	H12
3G89	F12
3G90	H11
3G91	H12
3G92	J9
3G93	K9
3G94	I9
3G95	I9
3G96	I9
3G99	I8
3S00	J9
3S01	G9
3S03	J8
4G00	A3
4G01	B3
4G05	G3
4G06	G3
4G09	B11
4G10	B11
4G11	D12
4G12	D12
4G13	D12
4G14	E9
4G15	F9
4G16	G11
4G17	G11
4G18	J5
4G19	H9
4G20	K9
4G21	I9
4G22	K10
4G26	E4
5G00	E4
5G01	D10
5G02	I11
6G00	F3
6G01	K3
6G02	B13
6G03	B2
6G04	C2
6G05	A2
6G06	B2
6G07	F2
6G08	F2
6G09	G2
6G10	G2
7G03	E4
7G05	J4
7G07	B11
7G08	B13
7G09	E11
7G10	J10
FG00	A2
FG01	A2
FG02	B1
FG03	B2
FG04	B2
FG05	C2
FG06	C2
FG07	C2
FG08	D2
FG09	E2
FG10	D2
FG11	E2
FG12	F2
FG13	F6
FG14	G2
FG15	G2
FG16	G1
FG17	G2
FG18	H2
FG19	H1
FG20	I2
FG21	H2
FG22	J2
FG23	J2
FG24	C1
FG25	C1
FG26	G2
FG27	H2
FG28	H2
FG30	I2
FG32	G14
FG33	G14
FG34	G14
FG35	G14
FG36	G14
FG37	H14
FG38	H14
FG39	H14
FG40	H15
FG41	H14
FG42	H14
FG43	H14
FG44	H14
FG45	H14
FG47	I14
FG48	I14
FG49	I14
FG50	I14
FG51	I14
FG53	I14
FG54	I14
FG56	I14
IG00	A4
IG01	A4
IG02	A5
IG03	B5
IG04	B4
IG05	B4
IG06	C6
IG07	C6
IG08	D6
IG09	D6
IG10	D6
IG11	E3
IG12	E4
IG13	E6
IG14	G4
IG15	G4
IG16	G5
IG17	G5
IG18	G4
IG19	H4
IG20	G5
IG21	H5
IG23	H5
IG24	J4
IG25	J5
IG26	J5
IG27	K5
IG28	D10
IG29	E11
IG30	F12
IG40	I4
IG42	I5
IG43	J4
IG46	I11
IG47	K9
IG49	B8
IG50	B11
IG52	C11
IG53	C11
IG54	C11
IG55	C11
IG56	D10
IG57	B13
IG58	B13
IG59	D14
IG60	E11
IG61	F11
IG62	F11
IG63	F11
IG64	E12
IG67	F12
IG69	F12
IG73	I8
IG75	I9
IG76	J8
IG78	J9
IG79	K9
IG80	I10
S011	A2
S012	B2
S013	B2
S014	B2
S015	C2
S016	C2
S017	C3
S018	C2
S019	D2
S020	E2
S021	E2
S022	E2
S023	F2
S024	G3
S025	G3
S026	H3
S027	H2
S028	G2
S029	H2
S030	H2
S031	H2
S032	I2
S033	I2
S034	I2
S035	J2
S036	K2

SSB: Top Connectors


B16 TOP CONNECTORS
B16
FOR UFD ONLY
UFD CONTROL
(1M03)
1J00
POR (NC)
LAMP_ON_OFF_1
TEMP_SENSOR (NC)
STANDBY_1
NC
POWER_UP_OK_1
FAN_SPEED
PROTECT_AUD
POWER_UP_OK
5J05
RES
3J06
4J02 RES
2J16 RES
2J33 RES
2J20 RES
2J34 RES
IJ12
B6
FROM SCALER INTERFACE
B8
FROM SCALER
B7
FROM SCALER
UFD SUPPLY
(1M46)
1J01
FJ00
FJ01 (NC)
FJ02
5V(NC)
FJ03
FJ04
+33V_TUN(NC)
FJ05 NC
4J01
1J07 +12V_UFD
3A T
1J08 +5V_UFD
5J04
+5V
2J31 1n0
B6
TO DC-DC CONVERTER
TO/FROM PSU (SUPPLY FOR LCD)
1J02
VP
GND_AUDIO
FJ06
FJ07
IJ08
IJ09
IJ10
IJ11
B12P-PH-K-S(LF)
3V2
+3V3STBY
5J03
POWER_DOWN
+12VUNREG
11V6
3J05 68R
3J03 68R
3J04 68R
STANDBY 3V1
BACKLIGHT_CTRL
LAMP_ON_OFF 3V2
IJ13
B9
FROM SCALER INTERFACE
B8
FROM SCALER
2J30 1n0
2J02 1n0
2J35 1n0
2J18 100p
2J19 100p
2J17 100p
2J22 100p
2J23 100p
2J21 100p
C
TO/FROM 1003 OF CLASS-D AUDIO AMP (+18V / +24V)
1J03
B3B-PH-K-S(LF)
FJ08
FJ09
VP
GND_AUDIO
2J03 1n0
B5
FROM AUDIO
AUDIO-L
AUDIO-R
5J01
5J02
FJ10
FJ11
FJ12
FJ13
FJ14
AUDIO-SW (NC)
3V3 SOUND_ENABLE_1
3V3 POR_AUDIO
PROTECT_AUD
2J26 100p
2J27 100p
2J28 100p
2J29 100p
2J36 1n0
(1M52)
1J04
B9B-PH-K-S(LF)
TO/FROM 1002 OF CLASS-D AUDIO AMPLIFIER
C
B20
FROM EPLD
B_LT_PWM
G_LT_PWM
R_LT_PWM
B_RT_PWM
G_RT_PWM
R_RT_PWM
FJ15
FJ16
FJ17
FJ18
FJ19
FJ20
1J05
B7B-PH-K-S(LF)
AMBIENT LIGHT (TOP)
2J04 100p
2J05 100p
2J06 100p
2J07 100p
2J08 100p
2J09 100p
B_LB_PWM
G_LB_PWM
R_LB_PWM
B_RB_PWM
G_RB_PWM
R_RB_PWM
FJ21
FJ22
FJ23
FJ24
FJ25
FJ26
1J06
B7B-PH-K-S(LF)
AMBIENT LIGHT (BOTTOM)
2J10 100p
2J11 100p
2J12 100p
2J13 100p
2J14 100p
2J15 100p
RESERVED
3139 123 6093.1
F_15430_016.eps 140405

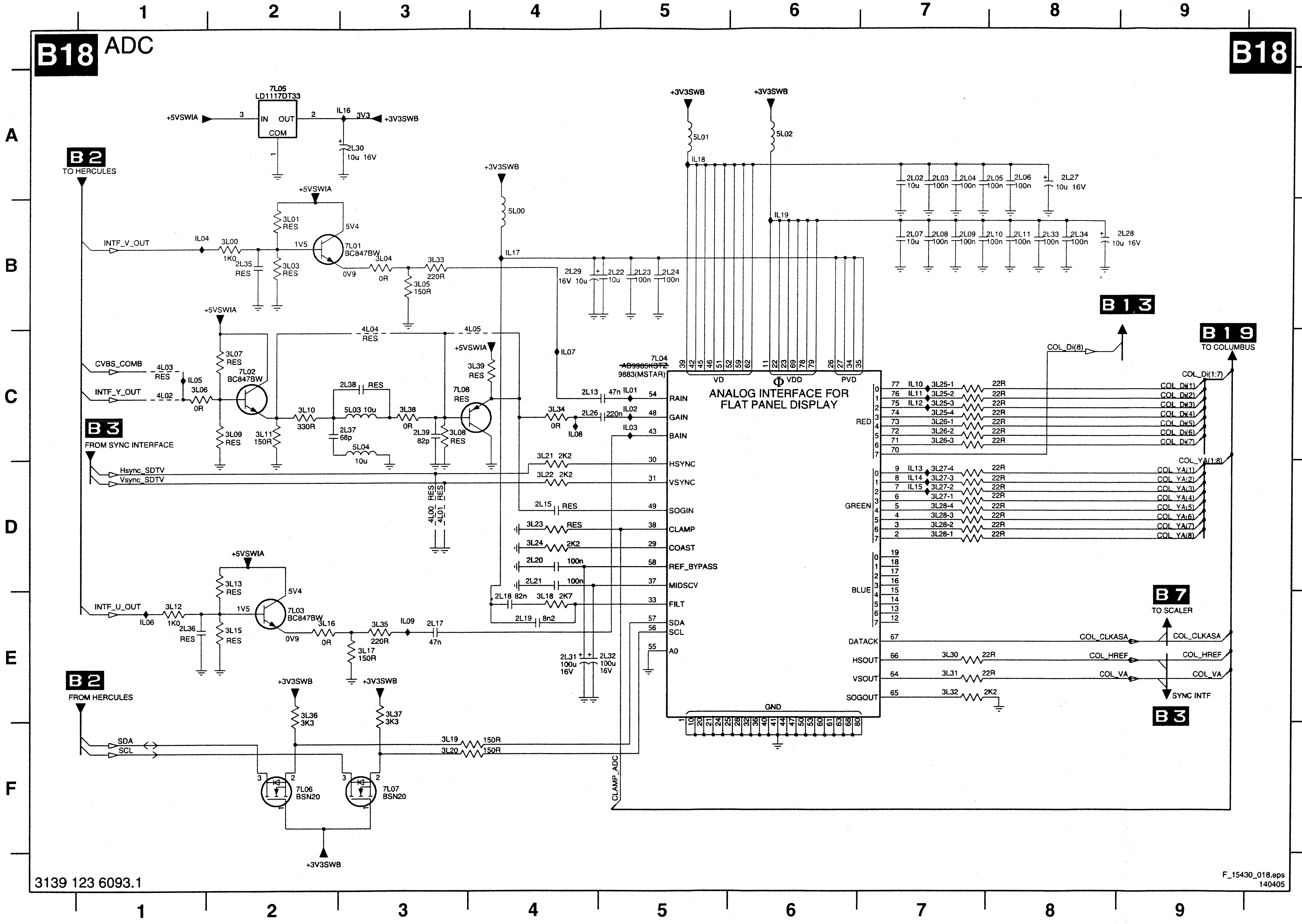
1J00	B1
1J01	C1
1J02	D1
1J03	F1
1J04	B8
1J05	C8
1J06	E8
1J07	C2
1J08	C2
2J02	F2
2J03	F2
2J04	D6
2J05	D7
2J06	D7
2J07	D7
2J08	D7
2J09	D7
2J10	E6
2J11	E7
2J12	E7
2J13	E7
2J14	E7
2J15	E7
2J16	C2
2J17	F3
2J18	F2
2J19	F3
2J20	C3
2J21	F3
2J22	F3
2J23	F3
2J26	C6
2J27	C7
2J28	C7
2J29	C7
2J30	F2
2J31	D2
2J33	C2
2J34	C3
2J35	F2
2J36	C7
3J03	E3
3J04	E3
3J05	E3
3J06	B3
4J01	D2
4J02	C2
5J01	B7
5J02	B7
5J03	E2
5J04	C2
5J05	B3
FJ00	C1
FJ01	C1
FJ02	C1
FJ03	C1
FJ04	C1
FJ05	D1
FJ06	E2
FJ07	E2
FJ08	F1
FJ09	F2
FJ10	B7
FJ11	B8
FJ12	B7
FJ13	B7
FJ14	C7
FJ15	C7
FJ16	C7
FJ17	D7
FJ18	D7
FJ19	D7
FJ20	D7
FJ21	E7
FJ22	E7
FJ23	E7
FJ24	E7
FJ25	E7
FJ26	E7
IJ01	B1
IJ02	B1
IJ03	B1
IJ04	B1
IJ05	B1
IJ06	B1
IJ07	B1
IJ08	E2
IJ09	E2
IJ10	E2
IJ11	E2
IJ12	B4
IJ13	E4

SSB: Side Connectors


B17 SIDE CONNECTORS
B17
FOR DISC/ ARCH CABINET
RESERVED
1K03
+3V3STBY_1
4K06
4K07 RES
+5VSW_1
PC-TV-LED_1
LED_SEL_1
LIGHT_SENSOR_1
IR_1
KEYBOARD
ITV_IR_SW_RESET
B3
B6
B2
+3V3STBY
LED_SEL
PC-TV-LED
IR
LIGHT_SENSOR
3K11 68R
5K00 1u0
5K02 1u0
3K12 68R
3K13 68R
IK16
4K01 RES
4K03 RES
4K04
4K05
IK00
IK01
IK02
IK03
PC-TV-LED_1
+3V3STBY_1
LED_SEL_1
IR_1
LIGHT_SENSOR_1
2K01 1n0
2K21 100p
2K22 100p
2K23 100p
2K24 100p
2K00 1n0
2K25 100p
2K26 100p
2K27 100p
2K28 100p
J
TO/FROM 1540 OF IR/ LED
1K00 (1M21)
B6B-PH-K
FK11
B15/B23
FRONT_Y_CVBS_IN
FRONT_C_IN
3K00 100R
2K02 10p
2K03 10p
3K01 100R
2K04 10p
2K05 10p
3K02 10K
IK17
2K08 2u2
2K06 100p
2K07 100p
3K03 15K
5K01 1u0
+5VSW
2K19 1n0
2K20 1n0
3K05 10K
IK18
2K12 2u2
2K10 100p
2K11 100p
3K06 15K
FRONT_L_IN
FRONT_R_IN
B2
B5
3K07 39R
2K13 100p
2K14 100p
HP_LOUT
3K08 68R
2K15 100p
HP_DET_R_DC
3K09 39R
2K16 100p
2K17 100p
HP_ROUT
4K02 RES
* UFD
2K13 10p
2K14 10p
2K16 10p
2K17 10p
3K07 10R
3K09 10R
D
TO/FROM 1304 OF SIDE I/O
RES 1K04
1K01 (1M06)
FK00 FRONT_Y_CVBS_IN_1
FK01 FRONT_C_IN_1
FK02 FRONT_L_IN_1
FK03 +5VSW_1
FK04 FRONT_R_IN_1
FK10
FK05 HP_LOUT_1
FK06 HP_DET_R_DC_1
FK07 HP_ROUT_1
3V3
E
TOP/SIDE KEYBOARD
1K02 (1M01)
FK08
FK09
B3B-PH-K-S(LF)
2K18 100p
KEYBOARD
3139 123 6093.1
F_15430_017.eps 140405

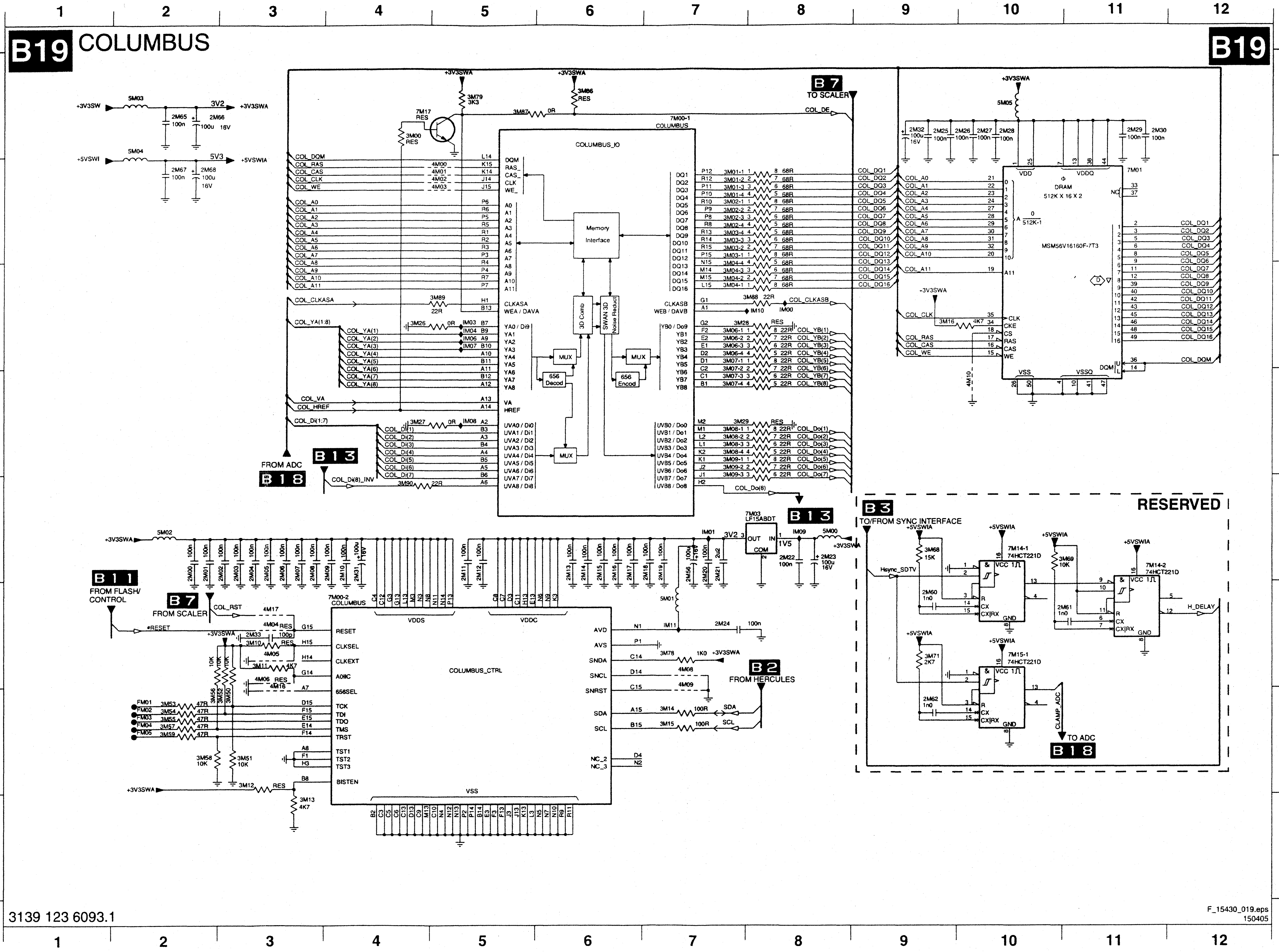
1K00	A8
1K01	D1
1K02	E8
1K03	A1
1K04	D1
2K00	B7
2K01	B6
2K02	C3
2K03	C3
2K04	D3
2K05	D3
2K06	D3
2K07	D3
2K08	D4
2K10	E3
2K11	E3
2K12	E4
2K13	F3
2K14	E3
2K15	F3
2K16	F3
2K17	F3
2K18	E8
2K19	E3
2K20	E3
2K21	B6
2K22	B6
2K23	B6
2K24	B6
2K25	B7
2K26	B7
2K27	B7
2K28	B7
3K00	C3
3K01	C3
3K02	D3
3K03	D3
3K05	E3
3K06	E3
3K07	E3
3K08	F3
3K09	F3
3K11	A7
3K12	A7
3K13	B7
4K01	A7
4K02	F2
4K03	A7
4K04	A7
4K05	A7
4K06	B1
4K07	B1
5K00	A7
5K01	D3
5K02	A7
FK00	E1
FK01	E1
FK02	E1
FK03	E1
FK04	E1
FK05	E1
FK06	E1
FK07	E1
FK08	E8
FK09	E8
FK10	E1
FK11	B8
IK00	A8
IK01	A8
IK02	A8
IK03	B8
IK16	A7
IK17	D3
IK18	E3

SSB: ADC


B18 ADC
B18
7L05
LD1117DT33
+5VSWIA
IN
OUT
COM
IL16
3V3
+3V3SWB
2L30
10u 16V
B2
TO HERCULES
INTF_V_OUT
IL04
3L00
1K0
2L35
RES
3L01
RES
3L03
RES
+5VSWIA
5V4
1V5
0V9
7L01
BC847BW
3L04
0R
3L33
220R
3L05
150R
+3V3SWB
5L00
IL17
2L29
16V 10u
2L22
10u
2L23
100n
2L24
100n
+3V3SWB
5L01
IL18
+3V3SWB
5L02
IL19
2L02
10u
2L03
100n
2L04
100n
2L05
100n
2L06
100n
2L27
10u 16V
2L07
10u
2L08
100n
2L09
100n
2L10
100n
2L11
100n
2L33
100n
2L34
100n
2L28
10u 16V
B13
COL_Di(8)
B19
TO COLUMBUS
CVBS_COMB
4L03
RES
IL05
INTF_Y_OUT
4L02
3L06
0R
3L07
RES
7L02
BC847BW
3L09
RES
3L11
150R
4L04
RES
4L05
3L10
330R
2L38
RES
5L03 10u
2L37
68p
5L04
10u
3L38
0R
2L39
82p
3L08
RES
+5VSWIA
3L39
RES
7L08
RES
IL07
B3
FROM SYNC INTERFACE
Hsync_SDTV
Vsync_SDTV
4L00 RES
4L01 RES
2L13
47n
IL01
3L34
0R
IL08
2L26
220n
IL02
IL03
3L21 2K2
3L22 2K2
2L15
RES
3L23
RES
3L24
2K2
2L20
100n
2L21
100n
2L18 82n
3L18 2K7
2L19
8n2
7L04
~~AD9985KSTZ~~
9883(MSTAR)
VD
VDD
PVD
ANALOG INTERFACE FOR FLAT PANEL DISPLAY
RAIN
GAIN
BAIN
HSYNC
VSYNC
SOGIN
CLAMP
COAST
REF_BYPASS
MIDSCV
FILT
SDA
SCL
A0
RED
GREEN
BLUE
DATACK
HSOUT
VSOUT
SOGOUT
GND
IL10
IL11
IL12
3L25-1
3L25-2
3L25-3
3L25-4
3L26-1
3L26-2
3L26-3
22R
COL_Di(1:7)
COL_Di(1)
COL_Di(2)
COL_Di(3)
COL_Di(4)
COL_Di(5)
COL_Di(6)
COL_Di(7)
IL13
IL14
IL15
3L27-4
3L27-3
3L27-2
3L27-1
3L28-4
3L28-3
3L28-2
3L28-1
COL_YA(1:8)
COL_YA(1)
COL_YA(2)
COL_YA(3)
COL_YA(4)
COL_YA(5)
COL_YA(6)
COL_YA(7)
COL_YA(8)
B7
TO SCALER
COL_CLKASA
COL_HREF
COL_VA
3L30
22R
3L31
22R
3L32
2K2
SYNC INTF
B3
+5VSWIA
3L13
RES
7L03
BC847BW
INTF_U_OUT
3L12
1K0
IL06
2L36
RES
3L15
RES
3L16
0R
3L35
220R
IL09
2L17
47n
3L17
150R
2L31
100u
16V
2L32
100u
16V
B2
FROM HERCULES
+3V3SWB
3L36
3K3
+3V3SWB
3L37
3K3
SDA
SCL
3L19
150R
3L20
150R
CLAMP_ADC
7L06
BSN20
7L07
BSN20
+3V3SWB
3139 123 6093.1
F_15430_018.eps
140405

2L02	A7
2L03	A7
2L04	A7
2L05	A8
2L06	A8
2L07	B7
2L08	B7
2L09	B7
2L10	B8
2L11	B8
2L13	C4
2L15	D4
2L17	E3
2L18	E4
2L19	E4
2L20	D4
2L21	D4
2L22	B5
2L23	B5
2L24	B5
2L26	C4
2L27	A8
2L28	B9
2L29	B4
2L30	A3
2L31	E4
2L32	E5
2L33	B8
2L34	B8
2L35	B2
2L36	E1
2L37	C3
2L38	C3
2L39	C3
3L00	B2
3L01	B2
3L03	B2
3L04	B3
3L05	B3
3L06	C1
3L07	C2
3L08	C3
3L09	C2
3L10	C2
3L11	C2
3L12	E1
3L13	D2
3L15	E2
3L16	E2
3L17	E3
3L18	E4
3L19	F3
3L20	F3
3L21	C4
3L22	D4
3L23	D4
3L24	D4
3L25-1	C7
3L25-2	C7
3L25-3	C7
3L25-4	C7
3L26-1	C7
3L26-2	C7
3L26-3	C7
3L27-1	D7
3L27-2	D7
3L27-3	D7
3L27-4	D7
3L28-1	D7
3L28-2	D7
3L28-3	D7
3L28-4	D7
3L30	E7
3L31	E7
3L32	E7
3L33	B3
3L34	C4
3L35	E3
3L36	E2
3L37	E3
3L38	C3
3L39	C4
4L00	D3
4L01	D3
4L02	C1
4L03	C1
4L04	C3
4L05	C4
5L00	B4
5L01	A5
5L02	A6
5L03	C3
5L04	C3
7L01	B3
7L02	C2
7L03	E2
7L04	C5
7L05	A2
7L06	F2
7L07	F3
7L08	C3
IL01	C5
IL02	C5
IL03	C5
IL04	B1
IL05	C1
IL06	E1
IL07	C4
IL08	C4
IL09	E3
IL10	C7
IL11	C7
IL12	C7
IL13	D7
IL14	D7
IL15	D7
IL16	A3
IL17	B4
IL18	A5
IL19	B6

SSB: Columbus

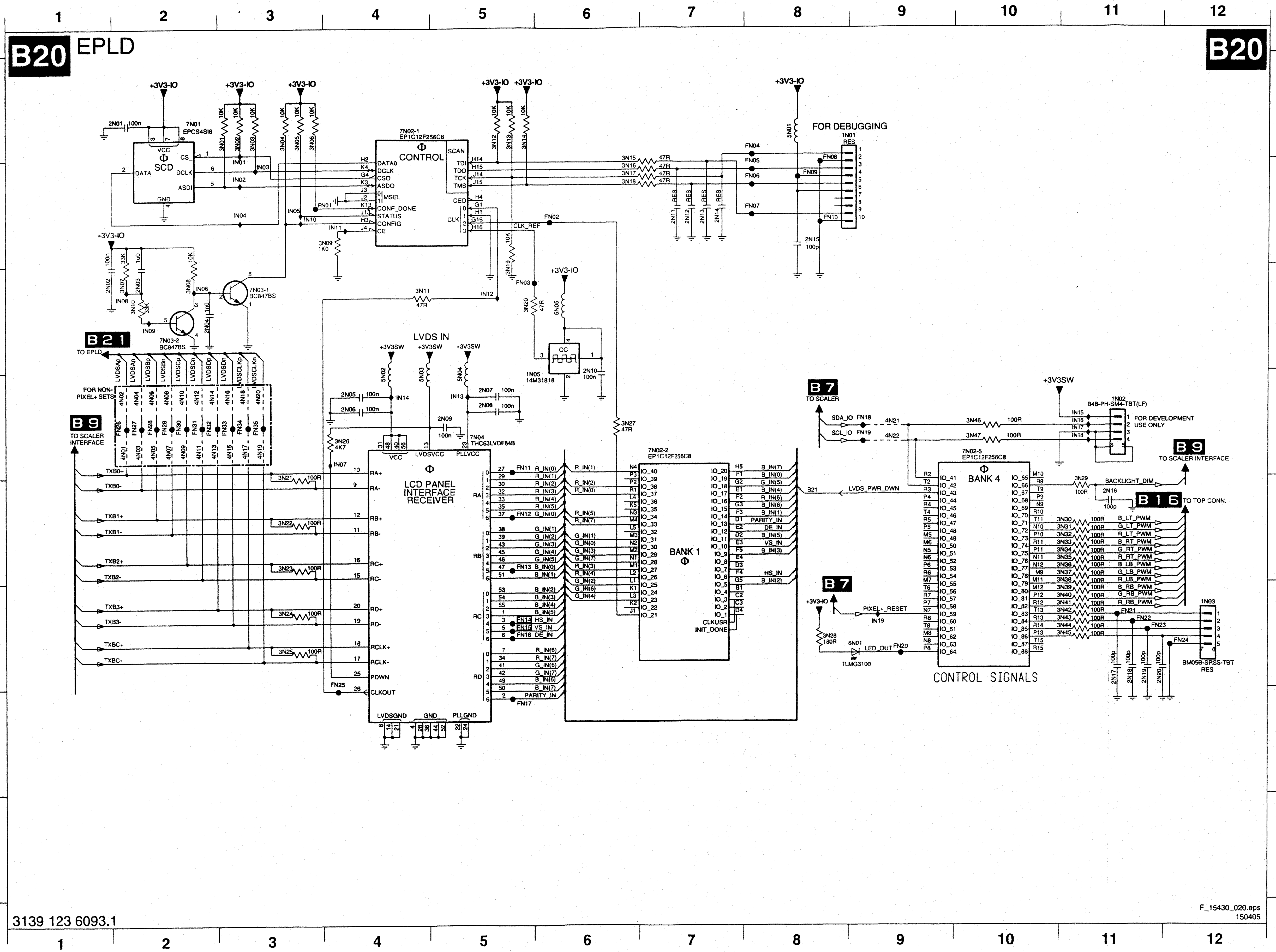

B19
COLUMBUS
B19
1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
+3V3SW
5M03
3V2
+3V3SWA
2M65 100n
2M66 100u 16V
+5VSWI
5M04
5V3
+5VSWIA
2M67 100n
2M68 100u 16V
+3V3SWA
3M79 3K3
3M86 RES
7M17 RES
3M00 RES
3M87 0R
B7 TO SCALER
COL_DE
7M00-1 COLUMBUS
COLUMBUS_IO
COL_DQM
COL_RAS
COL_CAS
COL_CLK
COL_WE
Memory Interface
3D Comb
SWAN 3D Noise Reduct
MUX
656 Decod
656 Encod
COL_CLKASA
3M89 22R
COL_YA(1:8)
3M26 0R
COL_VA
COL_HREF
COL_DI(1:7)
3M27 0R
COL_DI(8)_INV
3M90 22R
FROM ADC
B18
B13
3M88 22R
COL_CLKASB
IM10
IM00
COL_DQ1
COL_DQ16
COL_YB(1)
COL_YB(8)
COL_Do(1)
COL_Do(7)
COL_Do(8)
B13
+3V3SWA
5M05
2M32 100u 16V
2M25 100n
2M26 100n
2M27 100n
2M28 100n
2M29 100n
2M30 100n
7M01
DRAM 512K X 16 X 2
MSM56V16160F-7T3
VDD
VDDQ
VSS
VSSQ
DQM
3M16 4K7
CLK
CKE
CS
RAS
CAS
WE
4M10
5M02
+3V3SWA
B11 FROM FLASH/ CONTROL
B7 FROM SCALER
COL_RST
4M17
4M04 RES
2M33 100p
3M10 RES
4M05
3M11 4K7
4M06 RES
4M16
FM01
FM02
FM03
FM04
FM05
3M53 47R
3M54 47R
3M55 47R
3M57 47R
3M59 47R
3M56
3M52
3M50
10K
3M58 10K
3M51 10K
3M12 RES
3M13 4K7
7M00-2 COLUMBUS
COLUMBUS_CTRL
RESET
CLKSEL
CLKEXT
A0IIC
656SEL
TCK
TDI
TDO
TMS
TRST
TST1
TST2
TST3
BISTEN
VDDS
VDDC
VSS
AVD
AVS
SNDA
SNCL
SNRST
SDA
SCL
NC_2
NC_3
IM11
2M24 100n
3M78 1K0 +3V3SWA
4M08
4M09
3M14 100R
3M15 100R
B2 FROM HERCULES
7M03 LF15ABDT
OUT IN COM
1V5
IM01
IM09
5M00
2M22 100n
2M23 100u 16V
5M01
RESERVED
B3 TO/FROM SYNC INTERFACE
+5VSWIA
3M68 15K
7M14-1 74HCT221D
Hsync_SDTV
2M60 1n0
3M69 10K
2M61 1n0
7M14-2 74HCT221D
H_DELAY
3M71 2K7
2M62 1n0
7M15-1 74HCT221D
CLAMP_ADC
TO ADC
B18

3139 123 6093.1

F_15430_019.eps
150405

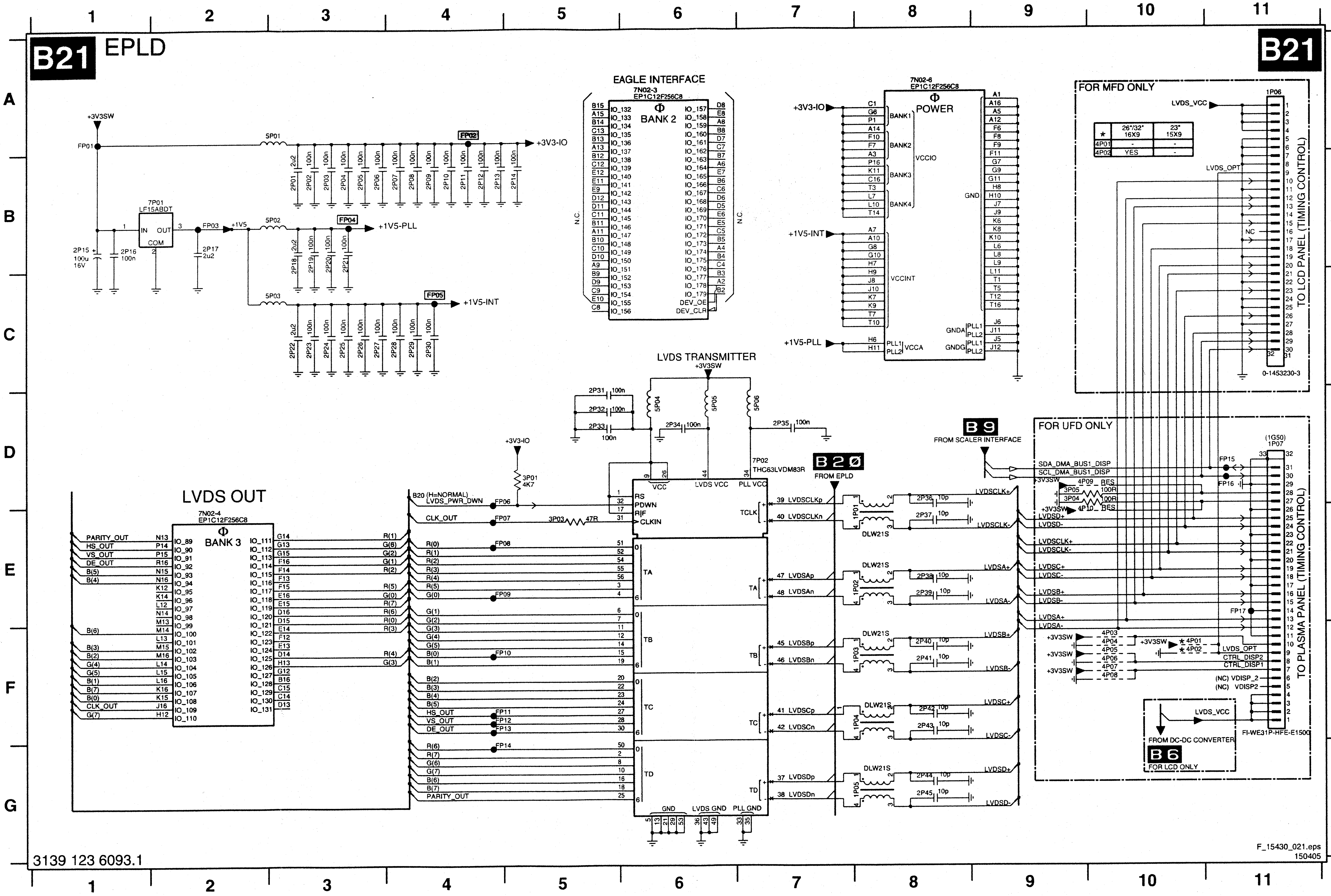
2M00	E2
2M01	E2
2M02	E3
2M03	E3
2M04	E3
2M05	E3
2M06	E3
2M07	E3
2M08	E3
2M09	E4
2M10	E4
2M11	E5
2M12	E5
2M13	E6
2M14	E6
2M15	E6
2M16	E6
2M17	E6
2M18	E7
2M19	E7
2M20	E7
2M21	E7
2M22	E8
2M23	E8
2M24	F7
2M25	A9
2M26	A10
2M27	A10
2M28	A10
2M29	A11
2M30	A11
2M31	E4
2M32	A9
2M33	F3
2M56	E7
2M60	F9
2M61	F11
2M62	G9
2M65	A2
2M66	A2
2M67	B2
2M68	B2
3M00	A4
3M01-1	B7
3M01-2	B7
3M01-3	B7
3M01-4	B7
3M02-1	B7
3M02-2	B7
3M02-3	B7
3M02-4	B7
3M03-1	B7
3M03-2	B7
3M03-3	B7
3M03-4	B7
3M04-1	C7
3M04-2	C7
3M04-3	C7
3M04-4	C7
3M06-1	C7
3M06-2	C7
3M06-3	C7
3M06-4	C7
3M07-1	C7
3M07-2	D7
3M07-3	D7
3M07-4	D7
3M08-1	D7
3M08-2	D7
3M08-3	D7
3M08-4	D7
3M09-1	D7
3M09-2	D7
3M09-3	E7
3M10	F3
3M11	F3
3M12	G3
3M13	H3
3M14	G7
3M15	G7
3M16	C9
3M26	C4
3M27	D4
3M28	C7
3M29	D7
3M50	G3
3M51	G3
3M52	G3
3M53	G2
3M54	G2
3M55	G2
3M56	G2
3M57	G2
3M58	G2
3M59	G2
3M68	E9
3M69	E11
3M71	F9
3M78	F7
3M79	A5
3M86	A6
3M87	A5
3M88	C8
3M89	C5
3M90	E4
4M00	B5
4M01	B5
4M02	B5
4M03	B5
4M04	F3
4M05	F3
4M06	F3
4M08	F7
4M09	F7
4M10	D10
4M16	F3
4M17	F3
5M00	E8
5M01	F7
5M02	E2
5M03	A2
5M04	A2
5M05	A10
7M00-1	A7
7M00-2	F4
7M01	B11
7M03	E8
7M14-1	E10
7M14-2	E11
7M15-1	F10
7M17	A4
FM01	G2
FM02	G2
FM03	G2
FM04	G2
FM05	G2
IM00	C8
IM01	E7
IM03	C5
IM04	C5
IM06	C5
IM07	C5
IM08	D5
IM09	E8
IM10	C8
IM11	F7

SSB: EPLD


B20 EPLD
B20
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H
+3V3-IO
7N01 EPCS4SI8
SCD
7N02-1 EP1C12F256C8
CONTROL
DATA0
DCLK
CSO
ASDO
MSEL
CONF_DONE
STATUS
CONFIG
CE
SCAN
TDI
TDO
TCK
TMS
CEO
CLK
CLK_REF
FOR DEBUGGING
1N01 RES
7N03-1 BC847BS
7N03-2 BC847BS
B21 TO EPLD
FOR NON-PIXEL+ SETS
B9 TO SCALER INTERFACE
LVDS IN
+3V3SW
7N04 THC63LVDF84B
LCD PANEL INTERFACE RECEIVER
VCC
LVDSVCC
PLLVCC
LVDSGND
GND
PLLGND
PDWN
CLKOUT
RCLK+
RCLK-
1N05 14M31818
7N02-2 EP1C12F256C8
BANK 1
CLKUSR
INIT_DONE
HS_IN
VS_IN
DE_IN
PARITY_IN
B7 TO SCALER
SDA_IO
SCL_IO
1N02 B48-PH-SM4-TBT(LF)
FOR DEVELOPMENT USE ONLY
7N02-5 EP1C12F256C8
BANK 4
CONTROL SIGNALS
LVDS_PWR_DWN
BACKLIGHT_DIM
B9 TO SCALER INTERFACE
B16 TO TOP CONN.
B_LT_PWM
G_LT_PWM
R_LT_PWM
B_RT_PWM
G_RT_PWM
R_RT_PWM
B_LB_PWM
G_LB_PWM
R_LB_PWM
B_RB_PWM
G_RB_PWM
R_RB_PWM
PIXEL+_RESET
LED_OUT
6N01 TLMG3100
1N03 BM05B-SRSS-TBT RES
B7
3139 123 6093.1
F_15430_020.eps
150405

1N01	A9
1N02	D11
1N03	F12
1N05	D5
2N01	A2
2N02	C1
2N03	C2
2N04	C2
2N05	D4
2N06	D4
2N07	D5
2N08	D5
2N09	D5
2N10	D6
2N11	B7
2N12	B7
2N13	B7
2N14	B7
2N15	B8
2N16	E11
2N17	F11
2N18	F11
2N19	F11
2N20	F11
3N01	A3
3N02	A3
3N03	A3
3N04	A3
3N05	A3
3N06	A3
3N07	C2
3N08	C2
3N09	B4
3N10	C2
3N11	C4
3N12	A5
3N13	A5
3N14	A5
3N15	B6
3N16	B6
3N17	B6
3N18	B6
3N19	C5
3N20	C5
3N21	E3
3N22	E3
3N23	E3
3N24	F3
3N25	F3
3N26	D4
3N27	D6
3N28	F8
3N29	E11
3N30	E11
3N31	E11
3N32	E11
3N33	E11
3N34	E11
3N35	E11
3N36	E11
3N37	E11
3N38	F11
3N39	F11
3N40	F11
3N41	F11
3N42	F11
3N43	F11
3N44	F11
3N45	F11
3N46	D10
3N47	D10
4N01	D2
4N02	D2
4N03	D2
4N04	D2
4N05	D2
4N06	D2
4N07	D2
4N08	D2
4N09	D2
4N10	D2
4N11	D2
4N12	D2
4N13	D2
4N14	D2
4N15	D3
4N16	D3
4N17	D3
4N18	D3
4N19	D3
4N20	D3
4N21	D9
4N22	D9
5N01	A8
5N02	D4
5N03	D4
5N04	D5
5N05	C6
6N01	F9
7N01	A2
7N02-1	A4
7N02-2	D7
7N02-5	D10
7N03-1	C3
7N03-2	C2
7N04	D5
FN01	B4
FN02	B6
FN03	C5
FN04	A8
FN05	B8
FN06	B8
FN07	B8
FN08	B8
FN09	B8
FN10	B8
FN11	D5
FN12	E5
FN13	E5
FN14	F5
FN15	F5
FN16	F5
FN17	G5
FN18	D9
FN19	D9
FN20	F9
FN21	F11
FN22	F11
FN23	F11
FN24	F12
FN25	F4
FN26	D2
FN27	D2
FN28	D2
FN29	D2
FN30	D2
FN31	D2
FN32	D2
FN33	D3
FN34	D3
FN35	D3
IN01	B3
IN02	B3
IN03	B3
IN04	B3
IN05	B3
IN06	C2
IN07	D4
IN08	C2
IN09	C2
IN10	B3
IN11	B4
IN12	C5
IN13	D5
IN14	D4
IN15	D11
IN16	D11
IN17	D11
IN18	D11
IN19	F9

SSB: EPLD


B21 EPLD
B21
EAGLE INTERFACE
7N02-3
EP1C12F256C8
BANK 2
7N02-6
EP1C12F256C8
POWER
BANK1
BANK2
BANK3
BANK4
VCCIO
VCCINT
GND
GNDA
GNDG
VCCA
PLL1
PLL2
+3V3-IO
+1V5-INT
+1V5-PLL
+3V3SW
FP01
5P01
FP02
7P01
LF15ABDT
IN
OUT
COM
FP03
+1V5
5P02
FP04
5P03
FP05
2P15
100u
16V
2P16
100n
2P17
2u2
LVDS TRANSMITTER
7P02
THC63LVDM83R
VCC
LVDS VCC
PLL VCC
RS
PDWN
R/F
CLKIN
TCLK
TA
TB
TC
TD
GND
LVDS GND
PLL GND
LVDS OUT
7N02-4
EP1C12F256C8
BANK 3
PARITY_OUT
HS_OUT
VS_OUT
DE_OUT
CLK_OUT
B20 (H=NORMAL)
LVDS_PWR_DWN
3P01
4K7
3P03
47R
B20
FROM EPLD
B9
FROM SCALER INTERFACE
DLW21S
LVDSCLKp
LVDSCLKn
LVDSAp
LVDSAn
LVDSBp
LVDSBn
LVDSCp
LVDSCn
LVDSDp
LVDSDn
FOR MFD ONLY
1P06
LVDS_VCC
LVDS_OPT
NC
26"/32" 16X9
23" 15X9
4P01
4P02
YES
TO LCD PANEL (TIMING CONTROL)
0-1453230-3
FOR UFD ONLY
(1G50)
1P07
SDA_DMA_BUS1_DISP
SCL_DMA_BUS1_DISP
4P09
BES
3P05
100R
3P04
4P10
FP15
FP16
FP17
CTRL_DISP2
CTRL_DISP1
(NC) VDISP_2
(NC) VDISP2
FROM DC-DC CONVERTER
B6
FOR LCD ONLY
FI-WE31P-HFE-E1500
TO PLASMA PANEL (TIMING CONTROL)
F_15430_021.eps
150405
3139 123 6093.1

1P01	E
1P02	E
1P03	F
1P04	F
1P05	G
1P06	A
1P07	D
2P01	B
2P02	B
2P03	B
2P04	B
2P05	B
2P06	B
2P07	B
2P08	B
2P09	B
2P10	B
2P11	B
2P12	B
2P13	B
2P14	B
2P15	B
2P16	B
2P17	B
2P18	B
2P19	B
2P20	B
2P21	B
2P22	C
2P23	C
2P24	C
2P25	C
2P26	C
2P27	C
2P28	C
2P29	C
2P30	C
2P31	C
2P32	D
2P33	D
2P34	D
2P35	D
2P36	D
2P37	E
2P38	E
2P39	E
2P40	F
2P41	F
2P42	F
2P43	F
2P44	G
2P45	G
3P01	D
3P03	E
3P04	D
3P05	D
4P01	F
4P02	F
4P03	F
4P04	F
4P05	F
4P06	F
4P07	F
4P08	F
4P09	D
4P10	E
5P01	A
5P02	B
5P03	C
5P04	D
5P05	D
5P06	D
7N02-3	
7N02-4	
7N02-6	
7P01	B
7P02	D
FP01	A
FP02	A
FP03	B
FP04	B
FP05	C
FP06	D
FP07	E
FP08	E

SSB: Diversity Tables B9-B21

B9 MUX-SYNC INTERFACE

Item	LC4.3x	LC4.8x	LC4.9x	Description
2A00			V	CER2 0603 X7R 16V 100N COL
2A01			V	CER1 0402 NP0 50V 100P COL
2A02			V	CER1 0402 NP0 50V 100P COL
2A03		V		CER2 0603 Y5V 10V 1U COL
2A12		V	V	CER2 0402 X7R 16V 10N COL
2A13		V	V	CER2 0402 Y5V 16V 100N COL
3A00			V	RST SM 0402 68R PM5 COL
3A01			V	RST SM 0402 68R PM5 COL
3A02	V	V		RST SM 0402 1K PM5 COL
3A06		V		RST SM 0603 10K PM5COL
3A06	V			RST SM 0603 JUMP. 0R05 COL
3A07			V	RST SM 0402 10K PM5 COL
3A07				RST SM 0402 68R PM5 COL
3A08			V	RST SM 0402 10K PM5 COL
3A10		V	V	RST SM 0402 10K PM5 COL
3A11		V	V	RST SM 0402 10K PM5 COL
3A13		V	V	RST SM 0402 10K PM5 COL
3A14		V	V	RST SM 0402 560R PM5 COL
4A03	V	V		RST SM 0603 JUMP. 0R05 COL
4A04			V	RST SM 0402 JUMP. 0R05 COL
4A05	V			RST SM 0402 JUMP. 0R05 COL
4A06	V			RST SM 0402 JUMP. 0R05 COL
5A00			V	FXDIND 0805 100MHZ 30R COL R
6A01		V	V	DIO REG SM BZX384-C3V9 COL R
7A00			V	IC SM PCA9515ADP (PHSE) R
7A02		V	V	TRA SIG SM BC847BW (COL) R
7A03		V	V	TRA SIG SM BC847BW (COL) R

B13 MUX-SYNC INTERFACE

ITEM	AP/EU/AP-DVB (with Teletext)	EU-DVB (with Teletext)	NAFTA/LT & China (non-Teletext)	DESCRIPTION
2E00	V		V	CER2 0603 X5R 6V3 4U7 PM10 R
2E01	V		V	CER2 0603 X5R 6V3 4U7 PM10 R
2E02	V		V	CER2 0603 X5R 6V3 4U7 PM10 R
2E04	V	V		CER2 0402 X5R 6V3 1U PM20 R
2E05	V	V		CER2 0402 X5R 6V3 1U PM20 R
2E06	V	V		CER2 0402 X5R 6V3 1U PM20 R
3E06	V		V	RST SM 0402 47K PM5 COL
3E07	V		V	RST SM 0402 47K PM5 COL
3E08	V		V	RST SM 0402 47K PM5 COL
3E13	V	V		RST SM 0402 330R PM5 COL
3E14	V	V		RST SM 0402 330R PM5 COL
3E15	V	V		RST SM 0402 330R PM5 COL
3E16	V	V		RST SM 0402 330R PM5 COL
3E17	V	V		RST SM 0402 330R PM5 COL
3E18	V	V		RST SM 0402 330R PM5 COL

B15 ANALOG I/O SCART

Item	26/32PF	DVB.T 26/32PF	37/42PF	DVB.T 37/42PF	Description
1G01	V	V			SOC EURO H 21P F BK R-GRND B
1G01			V	V	SOC EURO H 21P F SHD R-GRND Y
1G02	V	V			SOC EURO H 21P F BK R-GRND B
1G02			V	V	SOC EURO H 21P F SHD R-GRND Y
1G03		V		V	CON H 32P F 0.50 SM FPC 0.3 R
2G29		V		V	ELCAP SM 16V 10U PM20 COL R
2G30		V		V	CER2 0603 X7R 16V 100N COL
2G31		V		V	CER2 0603 X7R 16V 100N COL
2G32				V	CER2 0603 Y5V 25V 100N COL
2G33		V		V	CER2 0603 Y5V 16V 220N COL
2G34		V		V	ELCAP SM 16V 10U PM20 COL R
2G35		V		V	CER2 0603 Y5V 25V 100N COL
2G36		V		V	CER2 0603 Y5V 10V 1U COL
2G37		V		V	RST SM 0603 330R PM5 COL
2G38		V		V	CER2 0603 Y5V 10V 1U COL
2G39		V		V	CER2 0603 Y5V 10V 1U COL
2G40		V		V	RST SM 0603 JUMP. 0R05 COL
2G41		V		V	RST SM 0603 330R PM5 COL
2G43		V		V	CER2 0603 X7R 50V 1N COL
2G45		V		V	CER2 0603 X7R 50V 1N COL
2G46		V		V	CER2 0603 X7R 50V 1N COL
2G63		V		V	CER2 0603 X5R 6V3 2U2 PM10 R
2G64		V		V	CER2 0603 X5R 6V3 2U2 PM10 R
2G65		V		V	CER2 0603 X5R 6V3 4U7 PM10 R
2G65		V		V	CER2 0603 X5R 6V3 4U7 PM10 R
2G66		V		V	CER2 0603 X5R 6V3 4U7 PM10 R
2G66		V		V	CER2 0603 X5R 6V3 4U7 PM10 R
3G63		V		V	RST SM 0603 10K PM5COL
3G64		V		V	RST SM 0603 10K PM5COL
3G65		V		V	RST SM 0603 10K PM5COL
3G66				V	RST SM 0603 150R PM5 COL
3G67		V		V	RST SM 0603 15K PM5 COL
3G68		V		V	RST SM 0603 15K PM5 COL
3G69		V		V	RST SM 0603 47K PM5 COL
3G70		V		V	RST SM 0603 47K PM5 COL
3G71		V		V	RST SM 0603 560R PM5 COL
3G72		V		V	RST SM 0603 10K PM5COL
3G73		V		V	RST SM 0603 47K PM5 COL
3G75		V		V	RST SM 0603 100R PM5 COL
3G76		V		V	RST SM 0603 100R PM5 COL
3G77		V		V	RST SM 0603 47K PM5 COL
3G79		V		V	RST SM 0603 47K PM5 COL
3G81		V		V	RST SM 0603 47K PM5 COL
3G83		V		V	RST SM 0603 100R PM5 COL
3G84		V		V	RST SM 0603 100R PM5 COL
3G86		V		V	RST SM 0603 47K PM5 COL
3G88		V		V	RST SM 0603 75R PM5 COL
3G89		V		V	RST SM 0603 47K PM5 COL
3G92		V		V	RST SM 0603 47K PM5 COL
3G93		V		V	RST SM 0603 47K PM5 COL
3G94		V		V	RST SM 0603 47K PM5 COL
3G95		V		V	RST SM 0603 47K PM5 COL
4G09		V		V	RST SM 0603 JUMP. 0R05 COL
4G11	V		V		RST SM 0603 JUMP. 0R05 COL
4G12	V		V		RST SM 0603 JUMP. 0R05 COL
4G13	V		V		RST SM 0603 JUMP. 0R05 COL
4G14	V		V		RST SM 0603 JUMP. 0R05 COL
4G15	V		V		RST SM 0603 JUMP. 0R05 COL
4G16	V		V		RST SM 0603 JUMP. 0R05 COL
4G17	V		V		RST SM 0603 JUMP. 0R05 COL
4G18	V		V		RST SM 0603 JUMP. 0R05 COL
4G19	V		V		RST SM 0603 JUMP. 0R05 COL
4G22		V		V	RST SM 0603 JUMP. 0R05 COL
5G01		V		V	FXDIND 0603 100MHZ 120R COL R
6G02		V		V	DIO SIG SM BAS316 (COL) R
7G07		V		V	IC SM 74HC4053D (PHSE) R
7G08		V		V	TRA SIG SM BC847B (COL) R
7G09		V		V	IC SM ADG734BRUZ (ANA0) R

B16 SIDE CONNECTORS

Item	LC4.3x - CINCH	LC4.3E - SCART	LC4.9x - PDP	LC4.8x - LCD	Description
1J00			V	V	CON V 10P M 2.00 PH B
1J01			V	V	CON V 11P M 2.00 PH B
1J02	V	V			CON V 12P M 2.00 PH B
1J03	V	V			CON V 3P M 2.00 PH B
1J07			V	V	FUSE SM T 3A 125V UL R
1J08			V	V	FUSE SM F 630MA 50V UL R
2J31			V	V	CER1 0402 NP0 50V 100P COL
3J03	V	V		V	RST SM 0402 68R PM5 COL
3J04	V	V		V	RST SM 0402 68R PM5 COL
4J01			V	V	RST SM 0402 JUMP. 0R05 COL
5J04			V	V	IND FXD 1206 EMI 100MHZ 120R R

B17 SIDE CONNECTORS

Item	LC4.3x - ME5 styling	LC4.3x - Arch Styling	LC4.8x - LCD	LC4.9x - PDP	Description
1K00	V		V	V	CON V 6P M 2.00 PH B
1K01	V				CON V 12P M 2.00 PH B
1K03		V			CON V 20P F 1.25 FFC 0.3 B
1K04			V	V	CON V 11P M 2.00 PH B
2K15	V	V			CER1 0402 NP0 50V 100P COL
3K08	V	V			RST SM 0402 68R PM5 COL
4K02			V	V	RST SM 0603 JUMP. 0R05 COL
4K06		V			RST SM 0402 JUMP. 0R05 COL
5K01	V	V		V	FXDIND SM 0603 1U PM10 COL R

B18 ADC

Item	non-DVB sets with 3D Comb Filter	DVB sets with 3D Comb Filter	Description
3L38		V	RST SM 0402 JUMP. 0R05 COL
4L05		V	RST SM 0402 JUMP. 0R05 COL
5L04		V	RST SM 0603 JUMP. 0R05 COL

B20 & B21 PIXEL PLUS

Item	LC4.3 non PIXEL+	LC4.3 with PIXEL+	42PF7320/28	LC4.8/LC4.9 non PIXEL+	LC4.8/LC4.9 with PIXEL+	Description
1N02		V	V		V	CON V 4P M 2.00 SM PH R
1N05		V	V		V	OSC XTL SM 14M31818 15P OC R
1P06	V	V				CON V 30P M 1.25 SM 1453230 R
1P07			V	V	V	CON H 31P F 1.25 SM FI-WE R
2N01		V	V		V	CER2 0402 Y5V 16V 100N COL
2N02		V	V		V	CER2 0402 Y5V 16V 100N COL
2N03		V	V		V	CER2 0402 X5R 6V3 1U PM20 R
2N04		V	V		V	CER2 0402 X7R 50V 1N COL
2N05		V	V		V	CER2 0402 Y5V 16V 100N COL
2N06		V	V		V	CER2 0402 Y5V 16V 100N COL
2N07		V	V		V	CER2 0402 Y5V 16V 100N COL
2N08		V	V		V	CER2 0402 Y5V 16V 100N COL
2N09		V	V		V	CER2 0402 Y5V 16V 100N COL
2N10		V	V		V	CER2 0402 Y5V 16V 100N COL
2N11		V	V		V	CER1 0402 NP0 50V 100P COL
2N12		V	V		V	CER1 0402 NP0 50V 100P COL
2N13		V	V		V	CER1 0402 NP0 50V 100P COL
2N14		V	V		V	CER1 0402 NP0 50V 100P COL
2N15		V	V		V	CER1 0402 NP0 50V 100P COL
2N16		V	V		V	CER1 0402 NP0 50V 100P COL
2P01		V	V		V	CER2 0603 X5R 6V3 2U2 PM10 R
2P02		V	V		V	CER2 0402 Y5V 16V 100N COL
2P03		V	V		V	CER2 0402 Y5V 16V 100N COL
2P04		V	V		V	CER2 0402 Y5V 16V 100N COL
2P05		V	V		V	CER2 0402 Y5V 16V 100N COL
2P06		V	V		V	CER2 0402 Y5V 16V 100N COL
2P07		V	V		V	CER2 0402 Y5V 16V 100N COL
2P08		V	V		V	CER2 0402 Y5V 16V 100N COL
2P09		V	V		V	CER2 0402 Y5V 16V 100N COL
2P10		V	V		V	CER2 0402 Y5V 16V 100N COL
2P11		V	V		V	CER2 0402 Y5V 16V 100N COL
2P12		V	V		V	CER2 0402 Y5V 16V 100N COL
2P13		V	V		V	CER2 0402 Y5V 16V 100N COL
2P14		V	V		V	CER2 0402 Y5V 16V 100N COL
2P15		V	V		V	ELCAP SM 16V 100U PM20 COL R
2P16		V	V		V	CER2 0402 Y5V 16V 100N COL
2P17		V	V		V	CER2 0603 X5R 6V3 2U2 PM10 R
2P18		V	V		V	CER2 0603 X5R 6V3 2U2 PM10 R
2P19		V	V		V	CER2 0402 Y5V 16V 100N COL
2P20		V	V		V	CER2 0402 Y5V 16V 100N COL
2P21		V	V		V	CER2 0402 Y5V 16V 100N COL
2P22		V	V		V	CER2 0603 X5R 6V3 2U2 PM10 R
2P23		V	V		V	CER2 0402 Y5V 16V 100N COL
2P24		V	V		V	CER2 0402 Y5V 16V 100N COL
2P25		V	V		V	CER2 0402 Y5V 16V 100N COL
2P26		V	V		V	CER2 0402 Y5V 16V 100N COL
2P27		V	V		V	CER2 0402 Y5V 16V 100N COL
2P28		V	V		V	CER2 0402 Y5V 16V 100N COL
2P29		V	V		V	CER2 0402 Y5V 16V 100N COL
2P30		V	V		V	CER2 0402 Y5V 16V 100N COL
2P31		V	V		V	CER2 0402 Y5V 16V 100N COL
2P32		V	V		V	CER2 0402 Y5V 16V 100N COL
2P33		V	V		V	CER2 0402 Y5V 16V 100N COL
2P34		V	V		V	CER2 0402 Y5V 16V 100N COL
2P35		V	V		V	CER2 0402 Y5V 16V 100N COL
3N01		V	V		V	RST SM 0402 10K PM5 COL
3N02		V	V		V	RST SM 0402 10K PM5 COL
3N03		V	V		V	RST SM 0402 10K PM5 COL
3N04		V	V		V	RST SM 0402 10K PM5 COL
3N05		V	V		V	RST SM 0402 10K PM5 COL
3N06		V	V		V	RST SM 0402 10K PM5 COL
3N07		V	V		V	RST SM 0603 33K PM5 COL
3N08		V	V		V	RST SM 0402 10K PM5 COL
3N09		V	V		V	RST SM 0402 1K PM5 COL
3N10		V	V		V	RST SM 0402 33K PM5 COL
3N11		V	V		V	RST SM 0402 47R PM5 COL
3N12		V	V		V	RST SM 0402 10K PM5 COL
3N13		V	V		V	RST SM 0402 10K PM5 COL
3N14		V	V		V	RST SM 0402 10K PM5 COL
3N15		V	V		V	RST SM 0402 47R PM5 COL
3N16		V	V		V	RST SM 0402 47R PM5 COL

Item	LC4.3 non PIXEL+	LC4.3 with PIXEL+	42PF7320/28	LC4.8/LC4.9 non PIXEL+	LC4.8/LC4.9 with PIXEL+	Description
3N17		V	V		V	RST SM 0402 47R PM5 COL
3N18		V	V		V	RST SM 0402 47R PM5 COL
3N19		V	V		V	RST SM 0402 10K PM5 COL
3N20		V	V		V	RST SM 0402 47R PM5 COL
3N21		V	V		V	RST SM 0402 100R PM5 COL
3N22		V	V		V	RST SM 0402 100R PM5 COL
3N23		V	V		V	RST SM 0402 100R PM5 COL
3N24		V	V		V	RST SM 0402 100R PM5 COL
3N25		V	V		V	RST SM 0402 100R PM5 COL
3N26		V	V		V	RST SM 0402 4K7 PM5 COL
3N27		V	V		V	RST SM 0402 47R PM5 COL
3N28		V	V		V	RST SM 0603 180R PM5 COL
3N29		V	V		V	RST SM 0402 100R PM5 COL
3N30		V	V		V	RST SM 0402 100R PM5 COL
3N31		V	V		V	RST SM 0402 100R PM5 COL
3N32		V	V		V	RST SM 0402 100R PM5 COL
3N33		V	V		V	RST SM 0402 100R PM5 COL
3N34		V	V		V	RST SM 0402 100R PM5 COL
3N35		V	V		V	RST SM 0402 100R PM5 COL
3N46		V	V		V	RST SM 0402 100R PM5 COL
3N47		V	V		V	RST SM 0402 100R PM5 COL
3P01		V	V		V	RST SM 0402 4K7 PM5 COL
3P03		V	V		V	RST SM 0402 47R PM5 COL
3P04				V		RST SM 0402 100R PM5 COL
3P04					V	RST SM 0402 JUMP. 0R05 COL
3P05				V		RST SM 0402 100R PM5 COL
3P05					V	RST SM 0402 JUMP. 0R05 COL
4N01	V			V		RST SM 0402 JUMP. 0R05 COL
4N02	V			V		RST SM 0402 JUMP. 0R05 COL
4N03	V			V		RST SM 0402 JUMP. 0R05 COL
4N04	V			V		RST SM 0402 JUMP. 0R05 COL
4N05	V			V		RST SM 0402 JUMP. 0R05 COL
4N06	V			V		RST SM 0402 JUMP. 0R05 COL
4N07	V			V		RST SM 0402 JUMP. 0R05 COL
4N08	V			V		RST SM 0402 JUMP. 0R05 COL
4N09	V			V		RST SM 0402 JUMP. 0R05 COL
4N10	V			V		RST SM 0402 JUMP. 0R05 COL
4N11	V			V		RST SM 0402 JUMP. 0R05 COL
4N12	V			V		RST SM 0402 JUMP. 0R05 COL
4N13	V			V		RST SM 0402 JUMP. 0R05 COL
4N14	V			V		RST SM 0402 JUMP. 0R05 COL
4N15	V			V		RST SM 0402 JUMP. 0R05 COL
4N16	V			V		RST SM 0402 JUMP. 0R05 COL
4N17	V			V		RST SM 0402 JUMP. 0R05 COL
4N18	V			V		RST SM 0402 JUMP. 0R05 COL
4N19	V			V		RST SM 0402 JUMP. 0R05 COL
4N20	V			V		RST SM 0402 JUMP. 0R05 COL
4N21		V	V		V	RST SM 0402 JUMP. 0R05 COL
4N22		V	V		V	RST SM 0402 JUMP. 0R05 COL
4P01						RST SM 0402 JUMP. 0R05 COL
4P02						RST SM 0402 JUMP. 0R05 COL
4P07				V		RST SM 0402 JUMP. 0R05 COL
5N01		V	V		V	FXDIND 0805 100MHZ 30R COL R
5N02		V	V		V	FXDIND 0805 100MHZ 30R COL R
5N03		V	V		V	FXDIND 0805 100MHZ 30R COL R
5N04		V	V		V	FXDIND 0805 100MHZ 30R COL R
5N05		V	V		V	FXDIND 0805 100MHZ 30R COL R
5P01		V	V		V	FXDIND 0805 100MHZ 30R COL R
5P02		V	V		V	FXDIND 0805 100MHZ 30R COL R
5P03		V	V		V	FXDIND 0805 100MHZ 30R COL R
5P04		V	V		V	FXDIND 0805 100MHZ 30R COL R
5P05		V	V		V	FXDIND 0805 100MHZ 30R COL R
5P06		V	V		V	FXDIND 0805 100MHZ 30R COL R
6N01		V	V		V	LED VS SM TLMG3100 (VISH) R
7N01		V	V		V	IC SM EPCS4SI8N (ALT0) R
7N02		V	V		V	IC SM EP1C12F256C8N (ALT0) Y
7N03		V	V		V	TRA SIG SM BC847BS (PHSE) R
7N04		V	V		V	IC SM THC63LVDF84B (THIN) R
7P01		V	V		V	IC SM LF15ABDT (ST00) R
7P02		V	V		V	IC SM THC63LVDM83R (THIN) R

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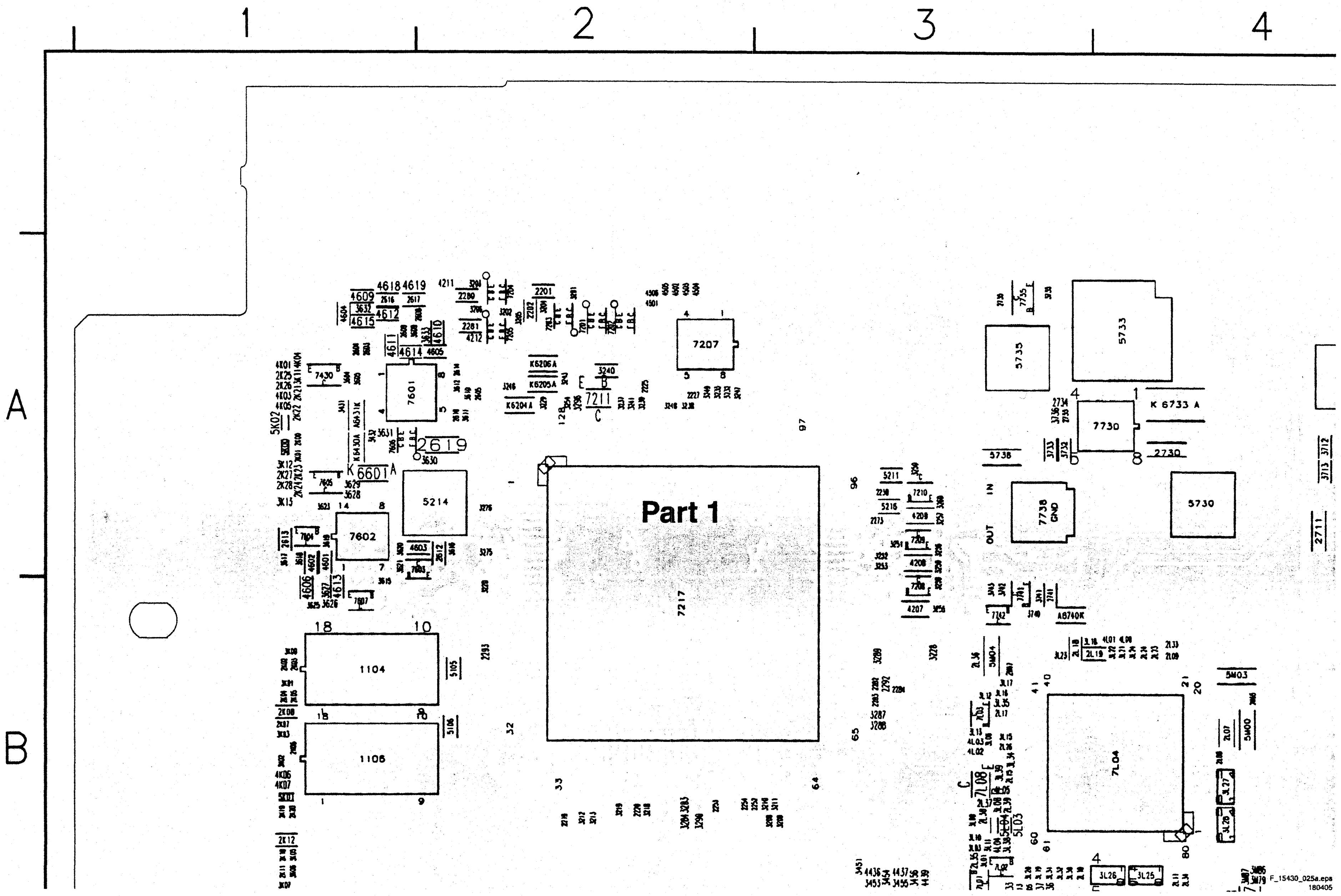
Layout Small Signal Board (Top Side Part 1)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5733
5735
7730
K 6733 A
2730
5738
7738
GND
IN
OUT
5730
2711
7L04
7L08
5L03
3L26
3L25
5M03
5M00
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K6204A
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5216
7210
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7209
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7208
4207
AB740K
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2L19
5M04
5105
5106
2K08
2K12
5K02
18
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97
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5

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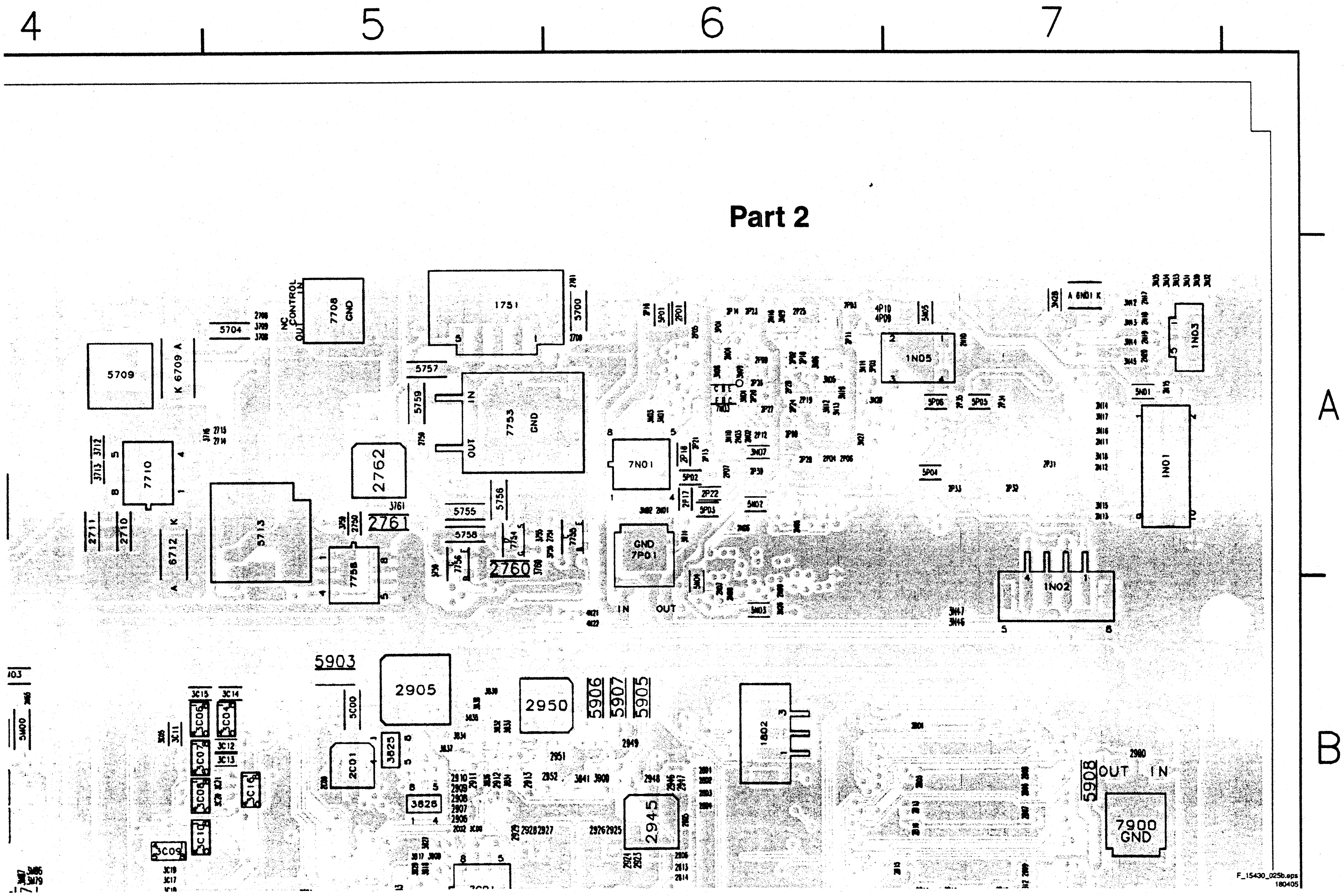
180405

Layout Small Signal Board (Top Side Part 2)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B
Part 2
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5757
5759
7753
IN
OUT
GND
7N01
GND
7P01
IN
OUT
1N05
1N03
1N01
1N02
4P10
4P09
5P06
5P05
5P04
5P02
5P03
5N02
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5758
2760
5713
7758
2711
2710
6712
5903
2905
2950
5906
5907
5905
1802
5908
OUT
IN
7900
GND
2C01
3825
3828
3C00
3C15
3C14
3C06
3C04
3C07
3C12
3C13
3C08
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5N00
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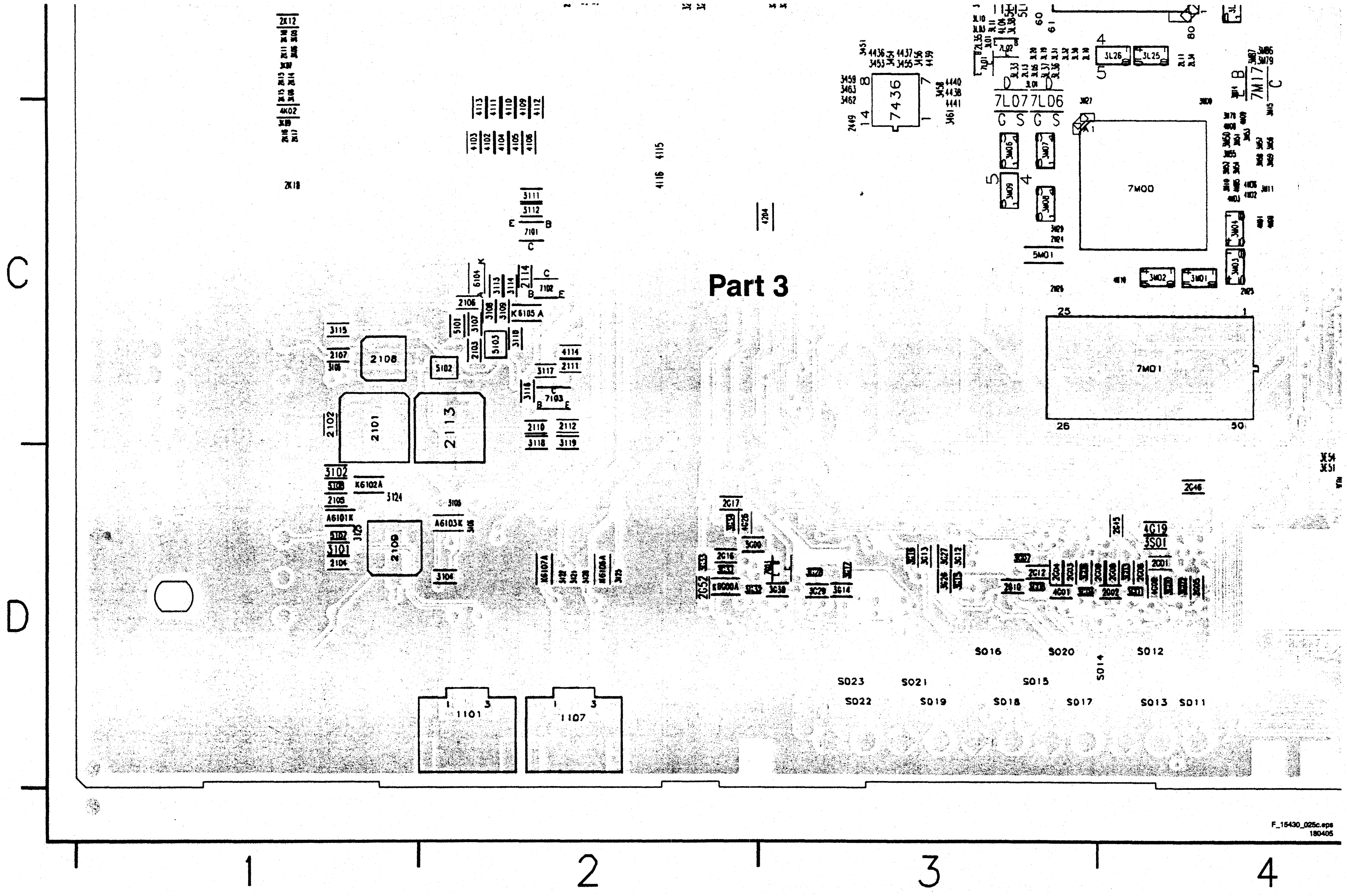
Layout Small Signal Board (Top Side Part 3)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4204
3111
3112
7101
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B
C
6104
3113
3114
2114
7102
2106
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3109
K6105 A
5101
3107
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3110
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3L26
3L25
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80
7M17
B
C
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3M06
3M07
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3M08
3M04
3M03
3M02
3M01
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7M01
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2G46
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S016
S020
S012
S014
S023
S021
S015
S022
S019
S018
S017
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3E54
3E51

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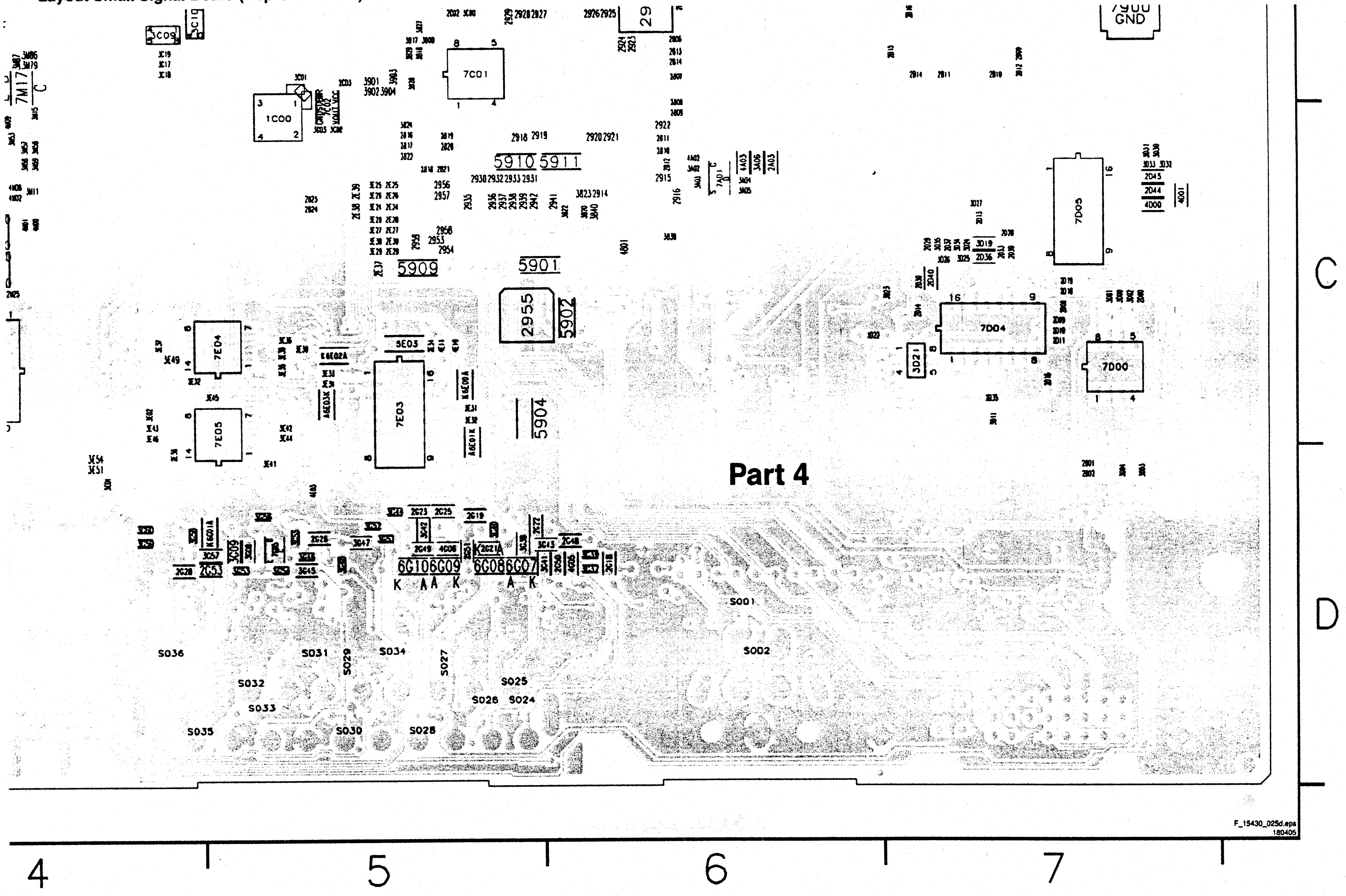
Layout Small Signal Board (Top Side Part 4)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5901
5910
5911
2955
5902
5904
2918
2919
2920
2921
2956
2957
2958
2953
2954
3C09
3C19
3901
3902
3903
3904
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6E00A
6E03K
6E01K
6G10
6G09
6G08
6C07
2C53
2C28
2C23
2C25
2C19
2C26
2045
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S002
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S026
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S030
S031
S032
S033
S034
S035
S036
K
A
C
D
4
5
6
7
F_15430_025d.eps
180405

Layout Small Signal Board (Bottom Side Overview)

1102	C6
1103	B6
1105	B7
1201	B6
1202	A6
1440	B5
1441	A5
1801	C3
1F00	D1
1F01	D2
1G01	D5
1G02	D3
1G03	D4
1J00	A5
1J01	A3
1J02	A4
1J03	A6
1J04	A6
1J05	A1
1J06	A3
1J07	A4
1J08	A3
1K00	A7
1K01	B7
1K02	C7
1K03	C7
1K04	B7
1P01	A1
1P02	A1
1P03	A1
1P04	A1
1P05	A1
1P06	A1
1P07	A1
2203	A5
2205	B6
2206	B6
2207	B6
2208	A6
2209	A6
2210	B5
2211	B6
2214	B6
2216	B6
2218	B5
2221	B6
2223	A5
2224	A5
2226	B6
2228	B6
2229	B6
2230	B6
2231	A6
2232	B5
2233	B5
2234	A6
2235	A6
2236	A5
2237	A5
2238	A6
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2241	A5
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2247	B6
2248	B6
2249	B6
2250	A5
2251	B5
2255	B6
2256	B6
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2259	B6
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2268	B6
2269	A6
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2738	A5
2739	A5
2752	A3
2753	A3
2754	A3
2755	A3
2756	A3
2757	A3
2758	A3
2800	C2
2815	C3
2901	B1
2902	B1
2903	C4
2904	C3
2917	C2
2934	C3
2940	C3
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2A01	B2
2A02	B2
2A12	B4
2A13	B3
2B01	B1
2B02	B1
2B05	B1
2B17	B1
2B18	B1
2D03	D1
2D04	C1
2D05	C1
2D06	D1
2D07	C1
2D12	C1
2D15	C1
2D17	C1
2D20	D1
2D21	C1
2D22	C1
2D23	D1
2D24	C1
2D25	C1
2D26	C1
2D27	C1
2D31	C1
2D32	C1
2D34	D2
2D38	C1
2D41	C1
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2E01	D4
2E02	D4
2E03	D3
2E04	D3
2E05	D3
2E06	C3
2E07	D3
2E08	D3
2E09	C3
2E10	D3
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2E12	C3
2E13	C3
2E14	C3
2E15	C4
2E16	C3
2E17	C3
2E18	C3
2E19	C3
2E20	C3
2E21	C3
2E22	C4
2E23	C4
2E33	C4
2E34	D4
2E35	C4
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2F04	D2
2F05	D2
2F07	D1
2F08	D1
2F09	D1
2F10	D1
2F11	D1
2F12	D1
2F13	D2
2F14	D2
2F15	D2
2F16	D2
2G07	D4
2G11	D4
2G20	D2
2G24	D2
2G29	D4
2G30	D4
2G31	D3
2G32	D3
2G33	D3
2G34	D5
2G35	D5
2G36	D5
2G37	D5
2G38	D5
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2G47	D3
2G55	D2
2G56	D2
2G63	D4
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2G66	D3
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2J03	A6
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2J06	A1
2J07	A1
2J08	A1
2J09	A1
2J10	A3
2J11	A3
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2J13	A3
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2J20	A5
2J21	A5
2J22	A5
2J23	A5
2J26	A6
2J27	A6
2J28	A6
2J29	A6
2J30	A4
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2J33	A5
2J34	A5
2J35	A5
2J36	A6
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2L04	B5
2L05	B5
2L06	B5
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2M28	C4
2M29	C4
2M30	C4
2M31	C4
2M32	C4
2M33	C4
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2M68	B5
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2P37	A1
2P38	A1
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2P40	A1
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2P42	A1
2P43	A1
2P44	A1
2P45	A1
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3216	B5
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3224	A5
3225	A5
3226	A5
3227	A5
3230	A6
3231	A6
3234	A6
3235	A6
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3245	B6
3262	B6
3263	B6
3264	B6
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3266	B6
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3268	B5
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3272	B6
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3282	C5
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3A07	B2
3A08	B2
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3G96	D2
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3J06	A5
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3M71	C5
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3N21	B2
3N22	B2
3N23	B2
3N24	B2
3N25	B2
3N36	A2
3N37	A2
3N38	A2
3N39	A2
3N40	A2
3N41	A2
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3S00	D2
3S03	D2
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4620	A7
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4A05	B4
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4E13	C4
4E14	C4
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4G10	D4
4G11	D4
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4G13	D3
4G14	D5
4G15	D5
4G16	D5
4G17	D5
4G18	D4
4G20	D3
4G21	D3
4G22	D3
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4J02	A5
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4N03	B2
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4N05	A2
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4P07	A1
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5205	B5
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5207	A6
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5212	A5
5213	A5
5215	B5
5217	B6
5218	B5
5431	A5
5501	A6
5712	A4
5737	A4
5752	A3
5753	A3
5754	A3
5900	B3
5A00	B2
5D00	C1
5D01	C1
5D02	C1
5D03	D2
5D04	D1
5E00	D4
5E01	C3
5E02	C4
5F00	D2
5F01	D1
5F02	D1
5F03	D1
5G01	D5
5G02	D3
5J01	A6
5J02	A6
5J03	A4
5J04	A4
5J05	A5
5L00	B4
5L01	B4
5L02	B4
5M02	C4
5M05	C4
6201	B6
6708	A4
6735	A5
6736	A5
6751	A3
6A01	B3
6F00	D1
6F01	D1
6G02	D3
6G03	D5
6G04	D5
6G05	D5
6G06	D5
7206	B5
7214	B6
7215	B5
7216	B6
7218	B5
7219	C5
7501	A6
7502	A6
7503	A6
7504	A5
7505	A6
7506	A6
7752	A3
7801	B2
7901	C4
7A00	B3
7A02	B3
7A03	B3
7B01	B1
7C00	B3
7D01	C1
7D02	C1
7D03	C1
7E00	C4
7E01	C3
7E02	C4
7F03	D1
7G07	D3
7G08	D3
7G09	D5
7G10	D3
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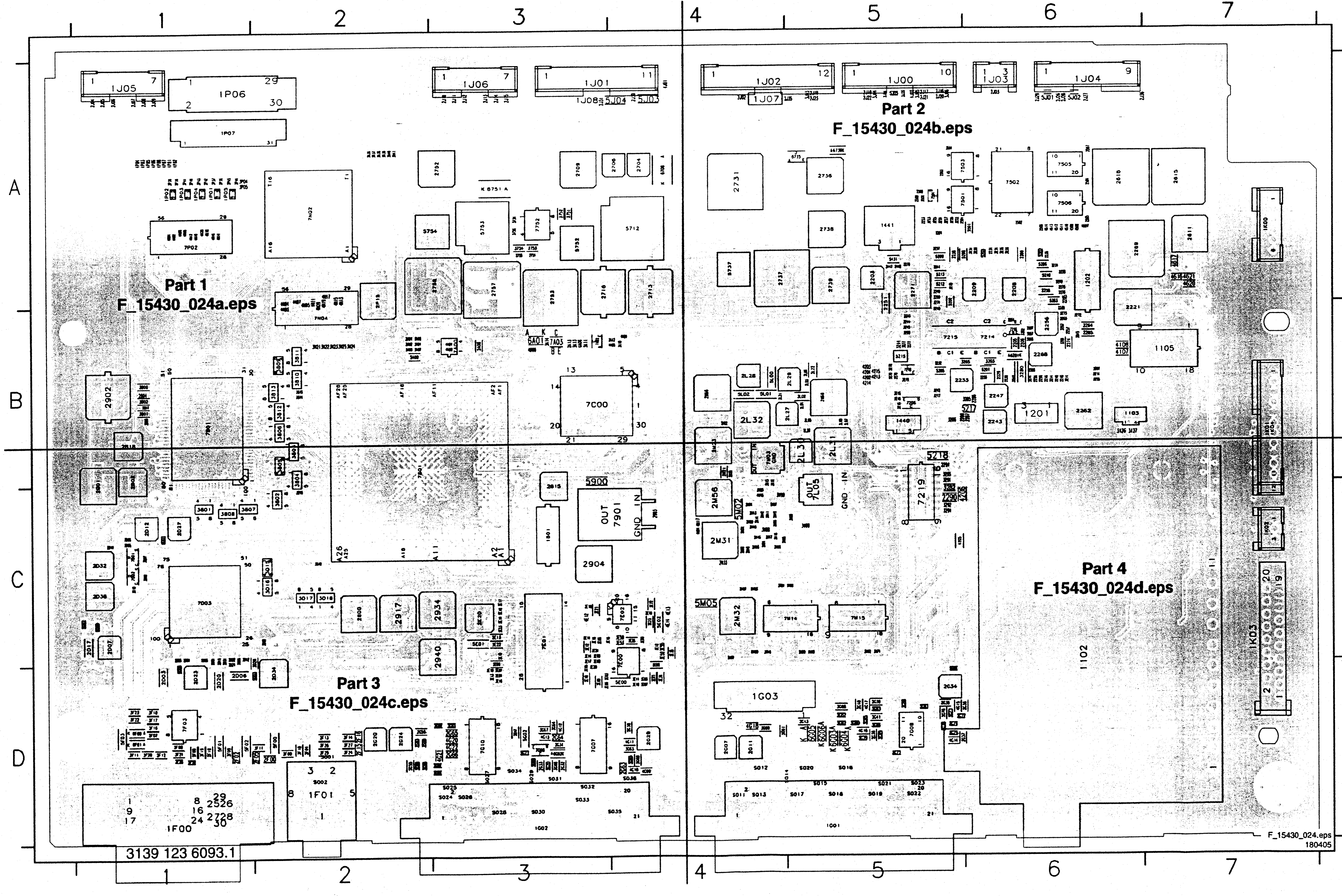
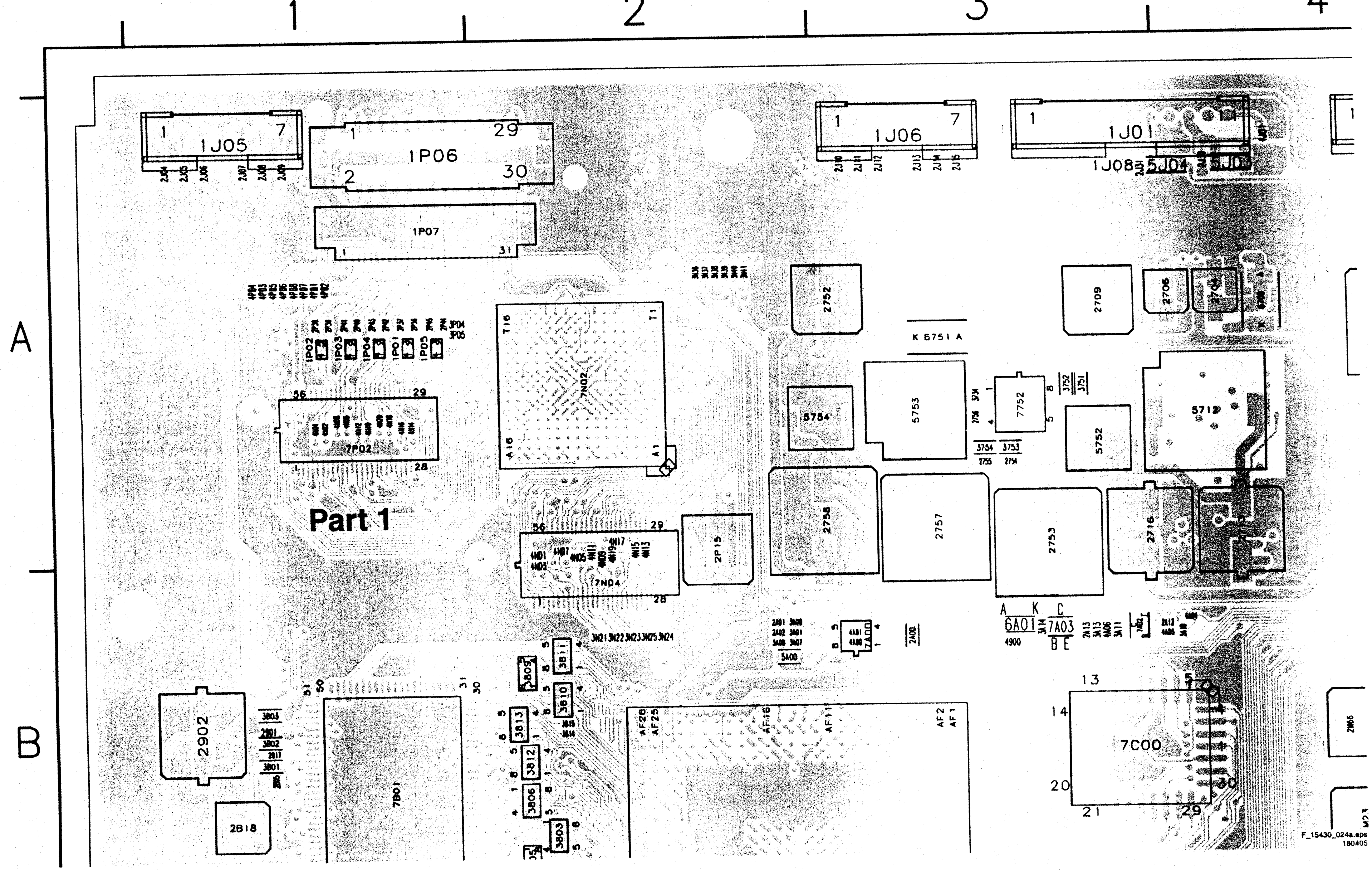
7P02	A1



Layout Small Signal Board (Bottom Side Part 1)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2
3
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A
B
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29
30
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5J03
Part 1
7P02
7N02
T16
T1
A16
A1
7N04
2P15
2758
2757
2753
2716
2752
5754
5753
7752
5752
5712
2709
2706
2704
K 6751 A
A K C
6A01
7A03
B E
4900
5400
2902
2B18
7B01
3805
3811
3810
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3812
3806
3803
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AF25
AF16
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AF2
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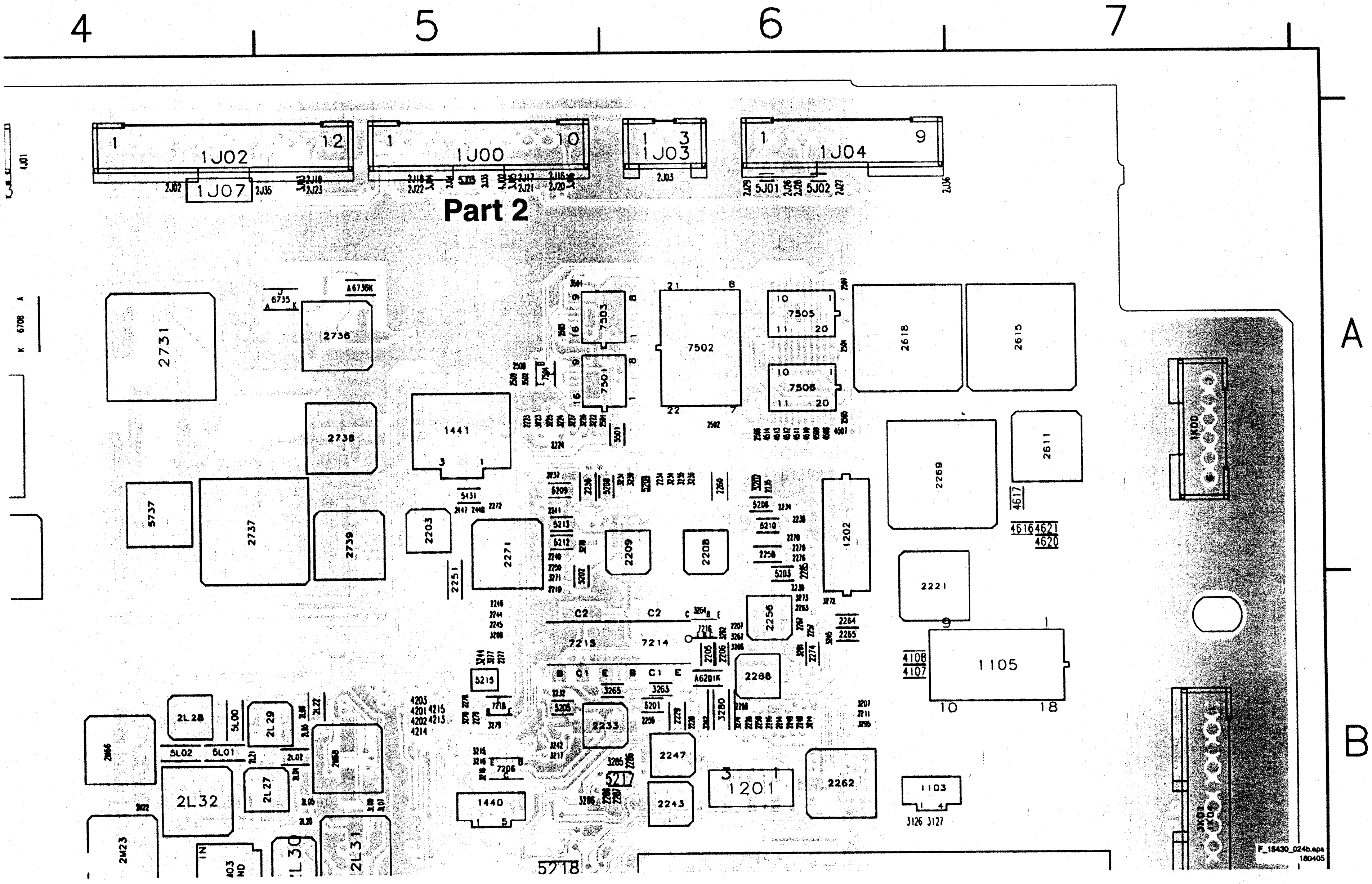
F_15430_024a.eps
180405

Layout Small Signal Board (Bottom Side Part 2)


4
5
6
7
A
B
1J02
1J07
1J00
1J03
1J04
Part 2
5J01
5J02
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2736
6735
2738
5737
2737
2739
2203
2271
2251
1441
7503
7501
7502
7505
7506
2618
2615
2611
2269
4617
4616
4621
4620
1202
2209
2208
2221
2256
C2
7214
7213
A6201K
2286
1105
4108
4107
10
18
9
1
2L28
5L00
2L29
5L02
5L01
2L32
2L27
2L31
2L30
2M23
2M66
5215
2233
2247
5217
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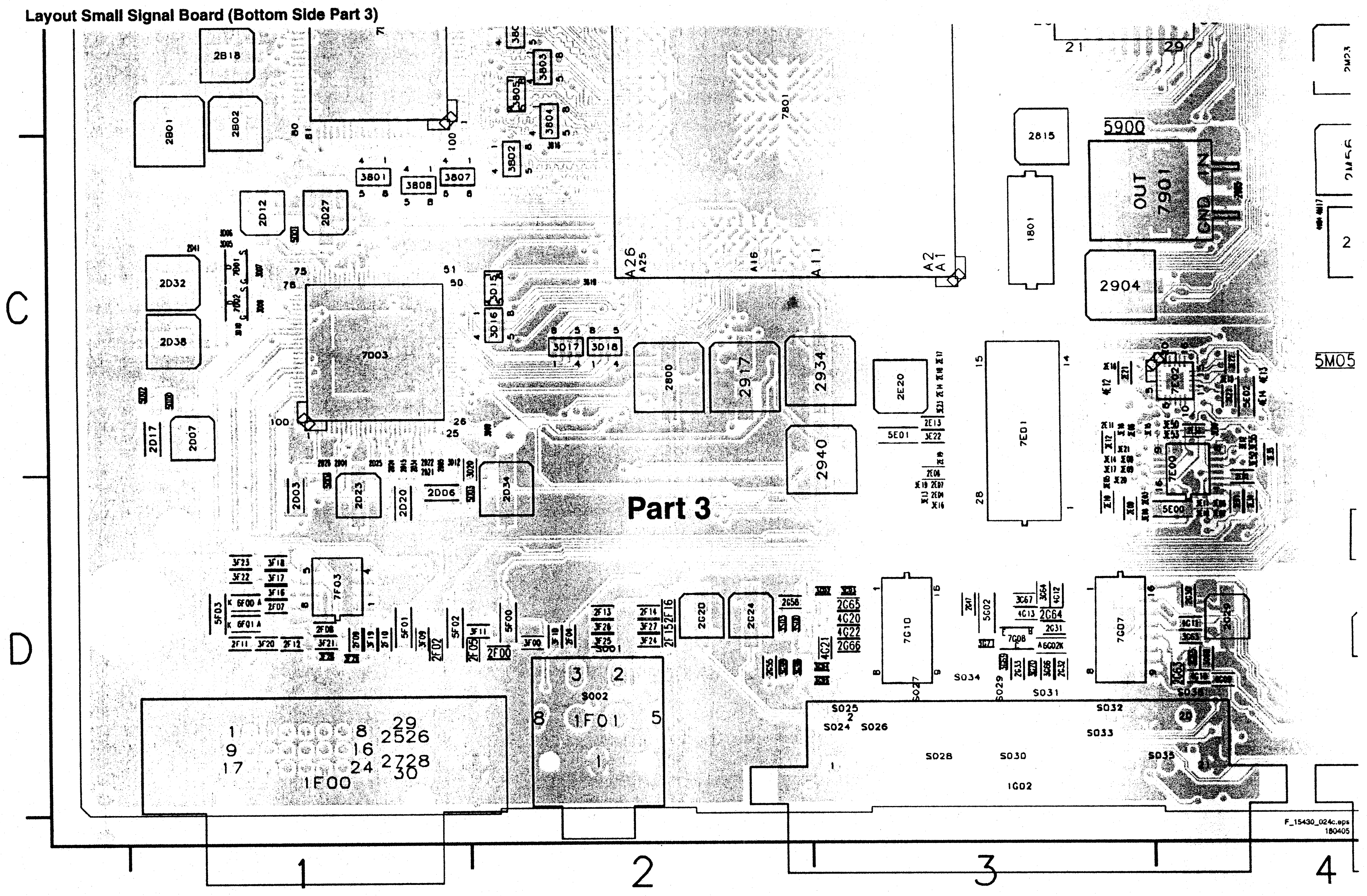
1201
2262
1103
3126 3127
1440
5218
F_15430_024b.eps
180405

Layout Small Signal Board (Bottom Side Part 3)


Part 3
C
D
1
2
3
4
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7E01
7B01
7F03
7C10
7C07
7901
OUT
GND
IN
5900
5M05
2904
2815
1801
2934
2940
2917
2800
2E20
1F00
1F01
1G02
2B01
2B02
2B18
2D12
2D27
2D32
2D38
2D17
2D07
2D03
2D23
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2D06
2D34
2C20
2C24
F_15430_024c.eps
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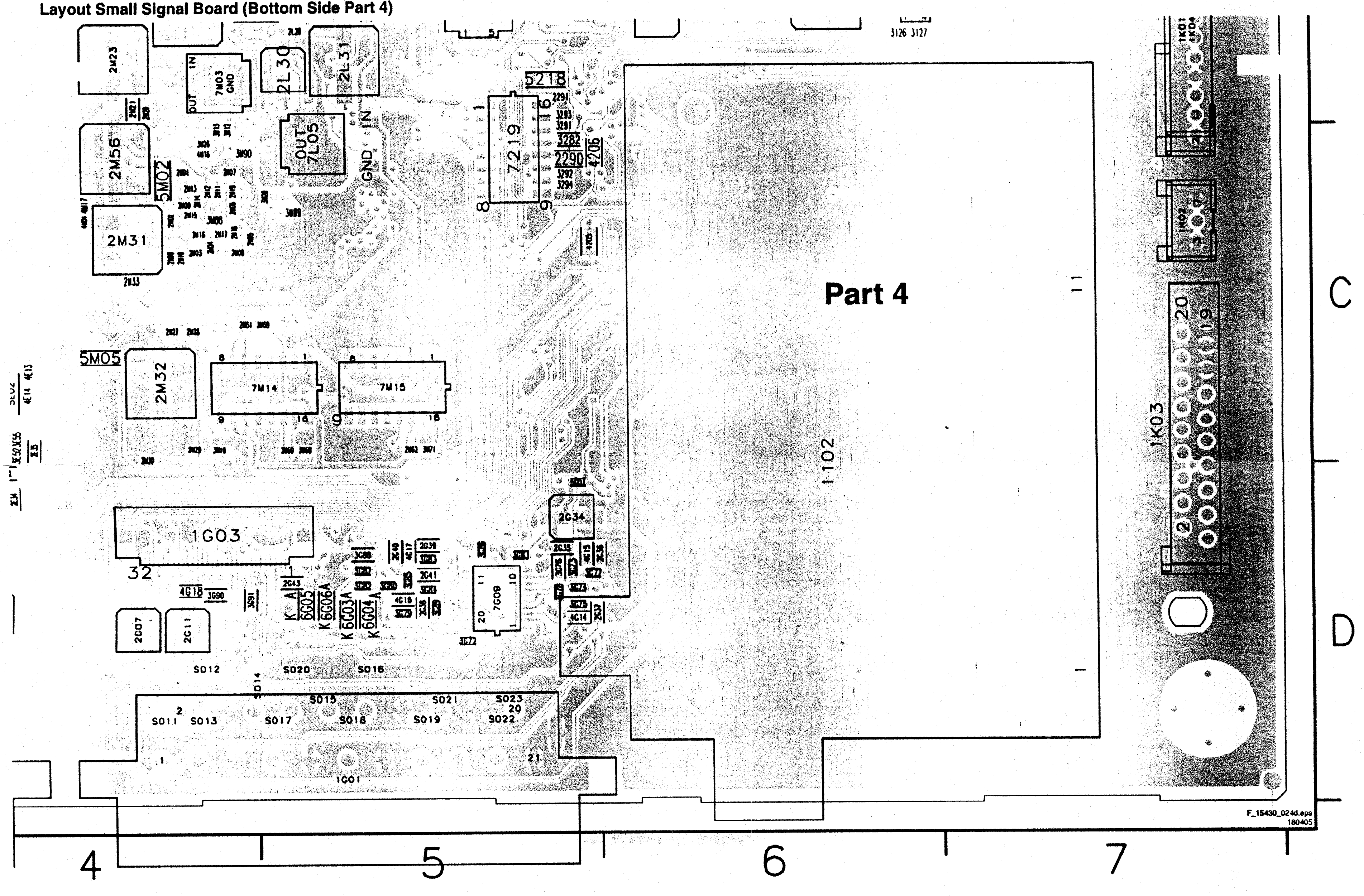
Layout Small Signal Board (Bottom Side Part 4)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C
D
4
5
6
7
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7L05
OUT
GND
IN
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7M14
7M15
7G09
2M23
2M56
2M31
2M32
2L30
2L31
2C34
2C07
2G11
5M02
5M05
5218
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180405

PDP Audio Amplifier Panel

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1736 A13
1738 G13
1M02 A13
1M06 A14
1M52 E14
2700 A3
2701 B10
2702 H11
2703 A7
2704 A7
2705 B10
2706 A3
2707 C5
2708 F9
2709 A6
2710 A7
2711 A2
2712 A10
2713 A4
2714 G14
2715 A10
2716 A10
2717 A8
2718 B5
2719 A4
2720 B5
2721 B6
2722 B4
2723 B8
2724 H10
2725 H10
2726 B4
2727 C8
2728 H10
2729 H10
2731 C9
2732 C10
2733 G9
2736 D10
2737 D10
2739 D6
2740 F11
2741 E8
2742 G11
2743 E5
2744 E3
2745 B7
2746 C7
2747 C2
2748 C2
2749 C3
2750 G9
2751 F4
2752 G5
2754 D15
2755 G2
2756 G7
2757 G7
2758 G5
2759 G11
2760 G6
2761 G1
2762 G2
2763 H5
2764 E8
2766 H11
2767 H11
2768 H5
2770 A15
2771 H6
2772 G2
2773 G3
2774 G3
2775 H5
2776 A6
2778 E9
2779 E8
2780 A10
2782 F8
2783 G8
2786 H8
2789 D10
2790 G15
2791 D14
2793 H1
2794 H3
2795 H3
2796 H3
2797 H4
2798 H4
2799 H9
3700 A2
3701 A10
3702 C2
3703 A2
3704 A10
3705 A5
3706 A4
3707 A8
3708 A10
3709 A3
3710 B8
3711 B9
3712 B3
3713 C13
3714 B4
3715 B8
3716 C10
3717 C5
3718 C2
3719 C2
3720 D10
3721 C3
3722 A3
3723 A3
3724 C2
3725 D2
3726 D4
3727 D6
3728 D4
3729 D2
3730 D1
3731 D3
3732 E4
3733 E6
3734 E4
3735 F5
3736 F3
3737 F3
3738 F5
3739 F9
3740 F15
3741 G10
3742 G14
3743 G5
3744 G5
3745 G11
3746 G13
3747 G5
3748 G15
3749 G5
3750 G2
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3755 H5
3756 H5
3757 G3
3758 G2
3759 G7
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3769 H8
3770 H2
3771 H3
3772 H2
3773 H2
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3776 H9
3777 D3
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7719-2 H6
7720 H15
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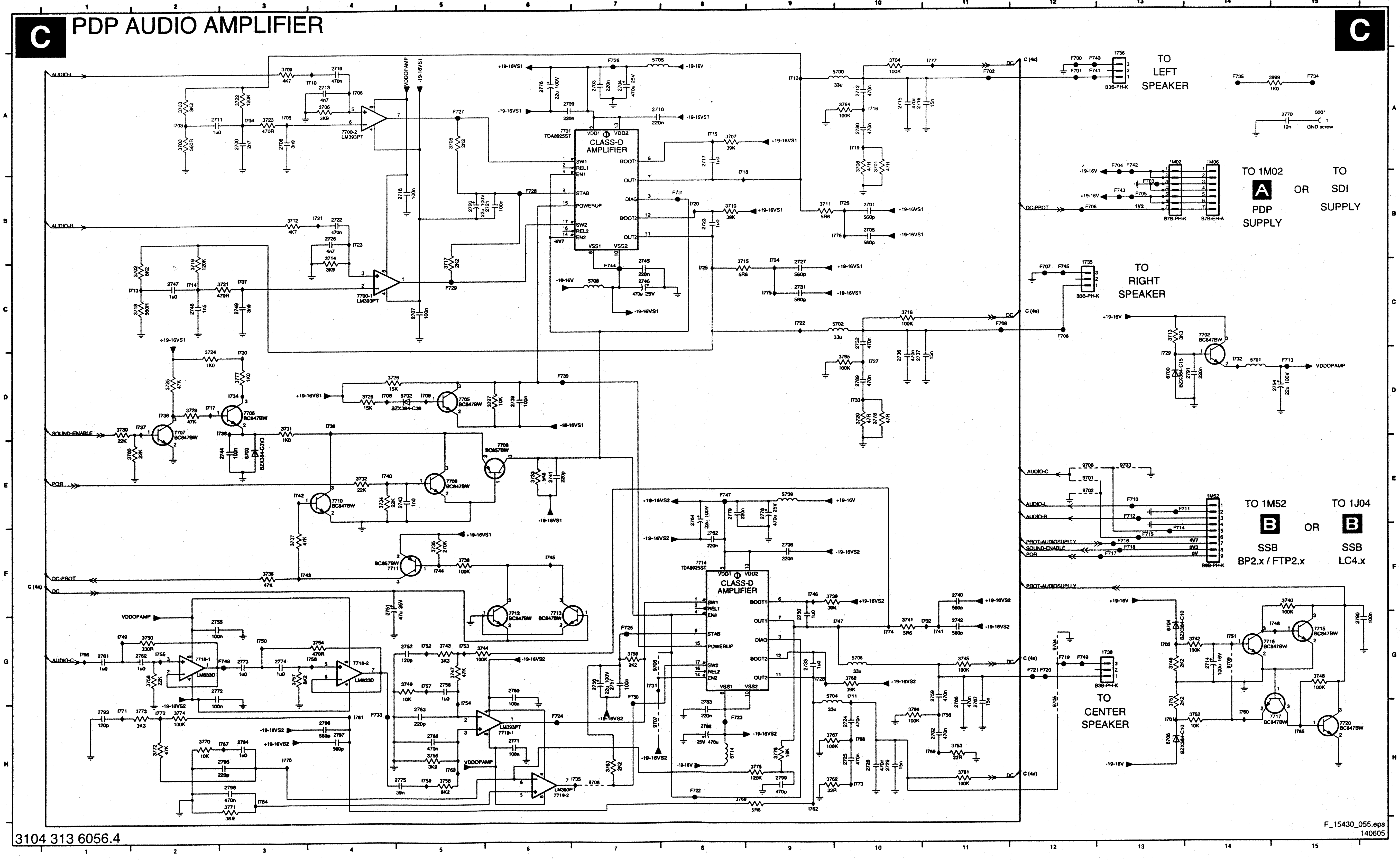
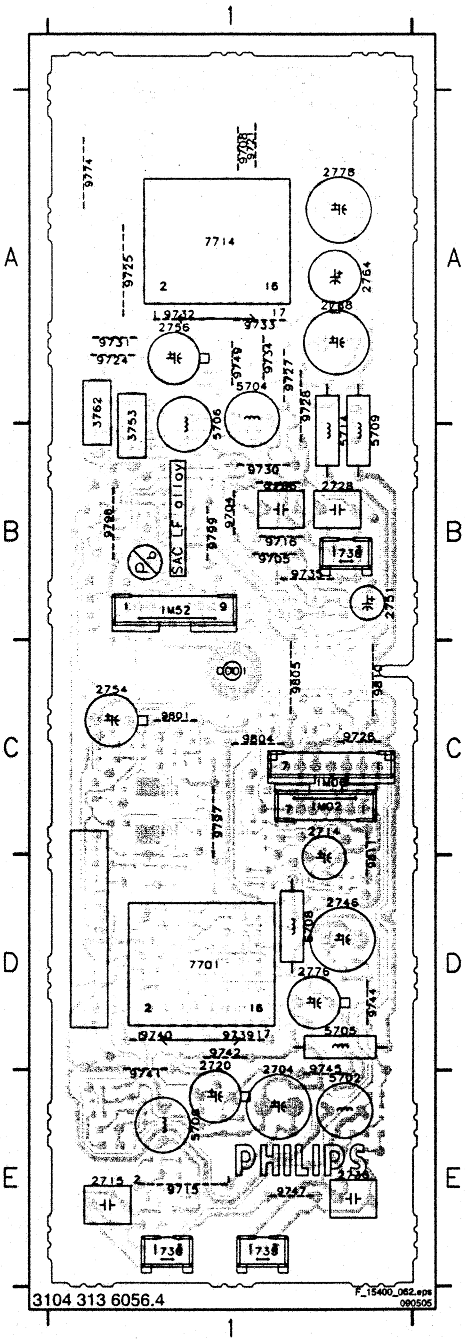
I777 A11

PDP AUDIO AMPLIFIER

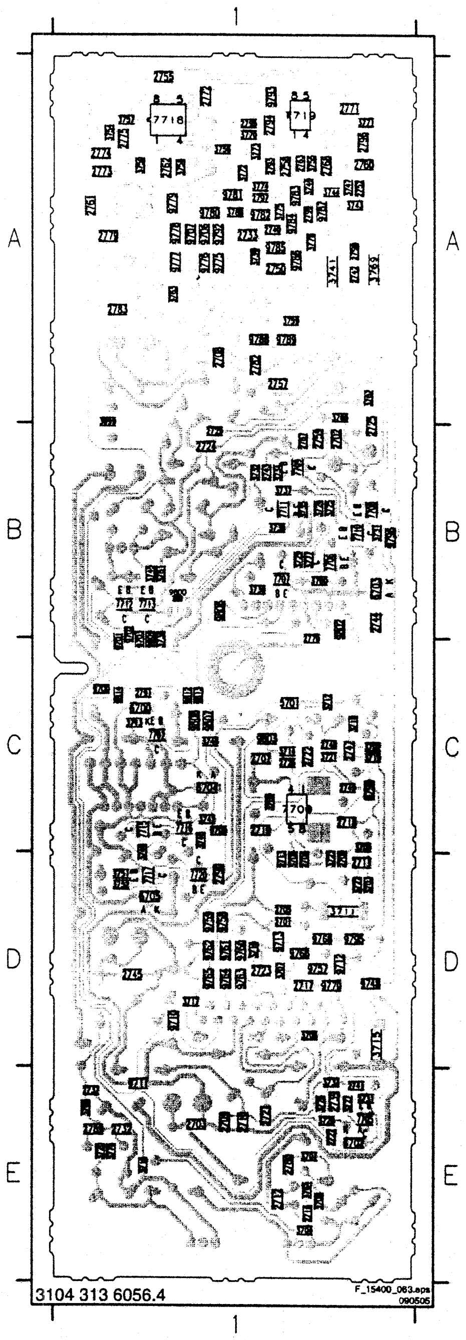

C
PDP AUDIO AMPLIFIER
C
AUDIO-L
AUDIO-R
AUDIO-C
SOUND-ENABLE
POR
DC-PROT
DC
C (4x)
VDDOPAMP
+19-16VS1
-19-16VS1
+19-16VS2
-19-16VS2
+19-16V
-19-16V
CLASS-D AMPLIFIER
TDA8925ST
LM393PT
LM833D
BC847BW
BC857BW
TO LEFT SPEAKER
TO RIGHT SPEAKER
TO CENTER SPEAKER
TO 1M02
A
PDP SUPPLY
OR
TO SDI SUPPLY
TO 1M52
B
SSB BP2.x / FTP2.x
OR
TO 1J04
B
SSB LC4.x
PROT-AUDIOSUPPLY
GND screw
3104 313 6056.4
F_15430_055.eps
140605

Layout PDP Audio Amplifier Panel (Top Side)



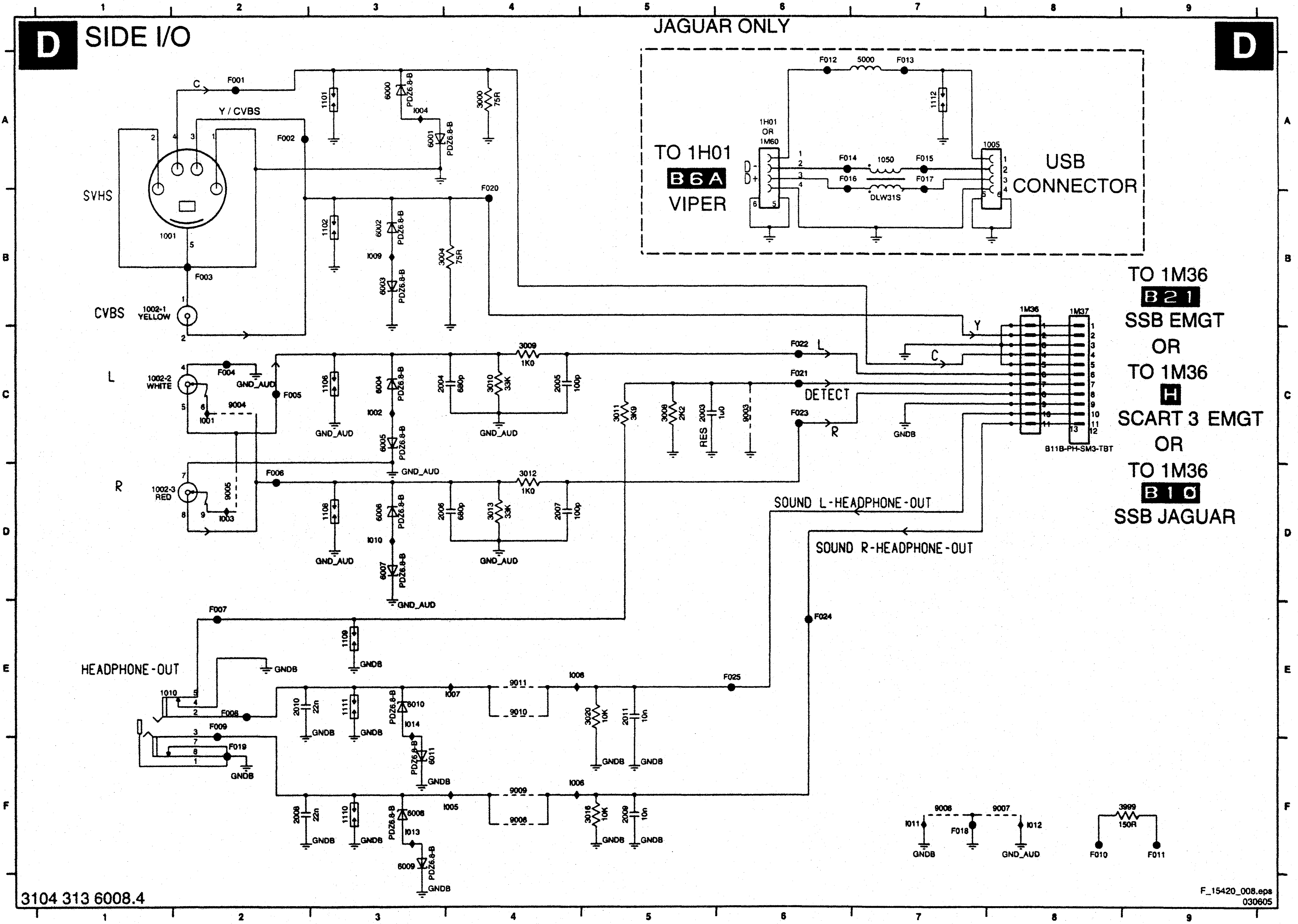
0001	C1
1735	E1
1736	E1
1738	B1
1M02	C1
1M06	C1
1M52	B1
2704	D1
2714	C1
2715	E1
2720	D1
2728	B1
2736	E1
2746	D1
2751	B1
2754	C1
2756	A1
2764	A1
2766	B1
2776	D1
2778	A1
2788	A1
3753	B1
3762	A1
5700	E1
5702	E1
5704	A1
5705	D1
5706	A1
5708	D1
5709	B1
5714	A1
7701	D1
7714	A1
9704	B1
9705	B1
9708	A1
9715	E1
9716	B1
9721	A1
9723	B1
9724	A1
9725	A1
9726	C1
9727	A1
9728	B1
9730	B1
9731	A1
9732	A1
9733	A1
9734	A1
9735	B1
9739	D1
9740	D1
9741	E1
9742	D1
9744	D1
9745	D1
9747	E1
9749	A1
9774	A1
9797	C1
9798	B1
9799	B1
9801	C1
9804	C1
9805	C1
9810	C1
9811	C1

Layout PDP Audio Amplifier Panel (Bottom Side)



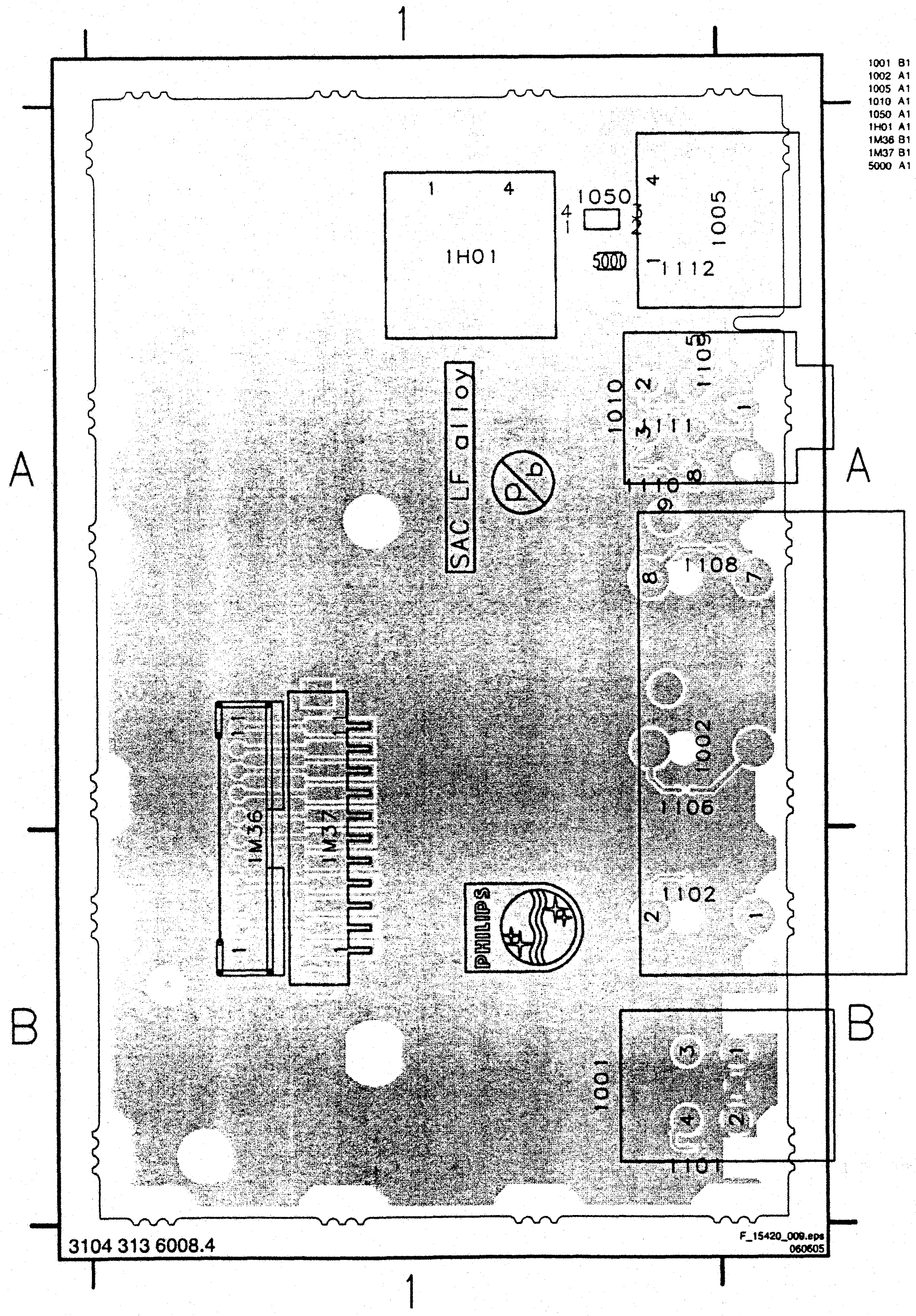
2700	D1	3740	C1	9808	C1
2701	D1	3741	A1	9809	C1
2702	B1	3742	C1	9812	C1
2703	E1	3743	A1	9813	C1
2705	D1	3744	A1	9814	C1
2706	D1	3745	B1		
2707	C1	3746	C1		
2708	A1	3747	A1		
2709	E1	3748	D1		
2710	E1	3749	A1		
2711	D1	3750	A1		
2712	E1	3751	D1		
2713	D1	3752	D1		
2716	E1	3754	A1		
2717	D1	3755	A1		
2718	C1	3756	A1		
2719	C1	3757	A1		
2721	E1	3758	A1		
2722	C1	3759	A1		
2723	D1	3760	B1		
2724	B1	3761	B1		
2725	B1	3763	A1		
2726	C1	3764	E1		
2727	E1	3765	E1		
2729	B1	3766	A1		
2731	E1	3767	A1		
2732	E1	3768	A1		
2733	A1	3769	A1		
2737	E1	3770	A1		
2739	E1	3771	A1		
2740	A1	3772	A1		
2741	E1	3773	A1		
2742	A1	3774	A1		
2743	B1	3775	A1		
2744	B1	3776	A1		
2745	D1	3777	B1		
2747	C1	3778	E1		
2748	C1	3999	A1		
2749	C1	5701	C1		
2750	A1	6700	C1		
2752	A1	6702	E1		
2755	A1	6703	B1		
2757	A1	6704	C1		
2758	A1	6705	D1		
2759	B1	7700	C1		
2760	A1	7702	C1		
2761	A1	7705	E1		
2762	A1	7706	B1		
2763	A1	7707	B1		
2767	B1	7708	B1		
2768	A1	7709	B1		
2770	B1	7710	B1		
2771	A1	7711	B1		
2772	A1	7712	B1		
2773	A1	7713	B1		
2774	A1	7715	C1		
2775	A1	7716	C1		
2779	A1	7717	D1		
2780	E1	7718	A1		
2782	A1	7719	A1		
2783	A1	7720	D1		
2789	E1	9700	C1		
2790	D1	9701	C1		
2791	C1	9702	B1		
2793	A1	9703	C1		
2794	A1	9706	A1		
2795	A1	9707	A1		
2796	A1	9709	C1		
2797	A1	9710	D1		
2798	A1	9711	E1		
2799	A1	9712	D1		
3700	C1	9713	D1		
3701	E1	9748	D1		
3702	C1	9757	D1		
3703	D1	9758	D1		
3704	E1	9759	D1		
3705	D1	9760	D1		
3706	D1	9761	D1		
3707	D1	9762	D1		
3708	E1	9763	D1		
3709	C1	9764	D1		
3710	D1	9765	D1		
3711	D1	9766	D1		
3712	C1	9768	D1		
3713	C1	9770	D1		
3714	C1	9775	A1		
3715	D1	9776	A1		
3716	E1	9777	A1		
3717	D1	9778	A1		
3718	C1	9779	A1		
3719	C1	9780	A1		
3720	E1	9781	A1		
3721	C1	9782	A1		
3722	D1	9783	A1		
3723	D1	9784	A1		
3724	B1	9785	A1		
3725	B1	9786	A1		
3726	E1	9787	A1		
3727	E1	9788	A1		
3728	E1	9789	A1		
3729	B1	9790	C1		
3730	B1	9792	A1		
3731	B1	9793	A1		
3732	B1	9795	D1		
3733	E1	9796	B1		
3734	B1	9800	B1		
3735	B1	9801	C1		
3736	C1	9802	B1		
3737	B1	9803	C1		
3738	B1	9806	B1		
3739	A1	9807	C1		

Side I/O Panel


D
SIDE I/O
D
JAGUAR ONLY
SVHS
1001
CVBS
1002-1 YELLOW
L
1002-2 WHITE
R
1002-3 RED
HEADPHONE-OUT
1010
C
Y / CVBS
F001
F002
F003
F004
F005
F006
F007
F008
F009
F019
F020
F021
F022
F023
F024
F025
GND_AUD
GNDB
1101
1102
1106
1108
1109
1110
1111
6000
6001
6002
6003
6004
6005
6006
6007
6008
6009
6010
6011
PDZ6.8-B
3000 75R
3004 75R
3009 1K0
3010 33K
3011 3K9
3012 1K0
3013 33K
3008 2K2
3016 10K
3020 10K
2003 1u0
2004 680p
2005 100p
2006 680p
2007 100p
2008 22n
2009 10n
2010 22n
2011 10n
RES
9003
9004
9005
9008
9009
9010
9011
I001
I002
I003
I004
I005
I006
I007
I008
I009
I010
I013
I014
DETECT
SOUND L-HEADPHONE-OUT
SOUND R-HEADPHONE-OUT
TO 1H01
B6A
VIPER
1H01 OR 1M60
D-
D+
F012
5000
F013
1112
F014
1050
F015
F016
DLW31S
F017
1005
USB CONNECTOR
1M36
1M37
B11B-PH-SM3-TBT
TO 1M36
B21
SSB EMGT
OR
TO 1M36
H
SCART 3 EMGT
OR
TO 1M36
B10
SSB JAGUAR
9006
9007
I011
F018
I012
GNDB
GND_AUD
3999 150R
F010
F011
3104 313 6008.4
F_15420_008.eps
030605

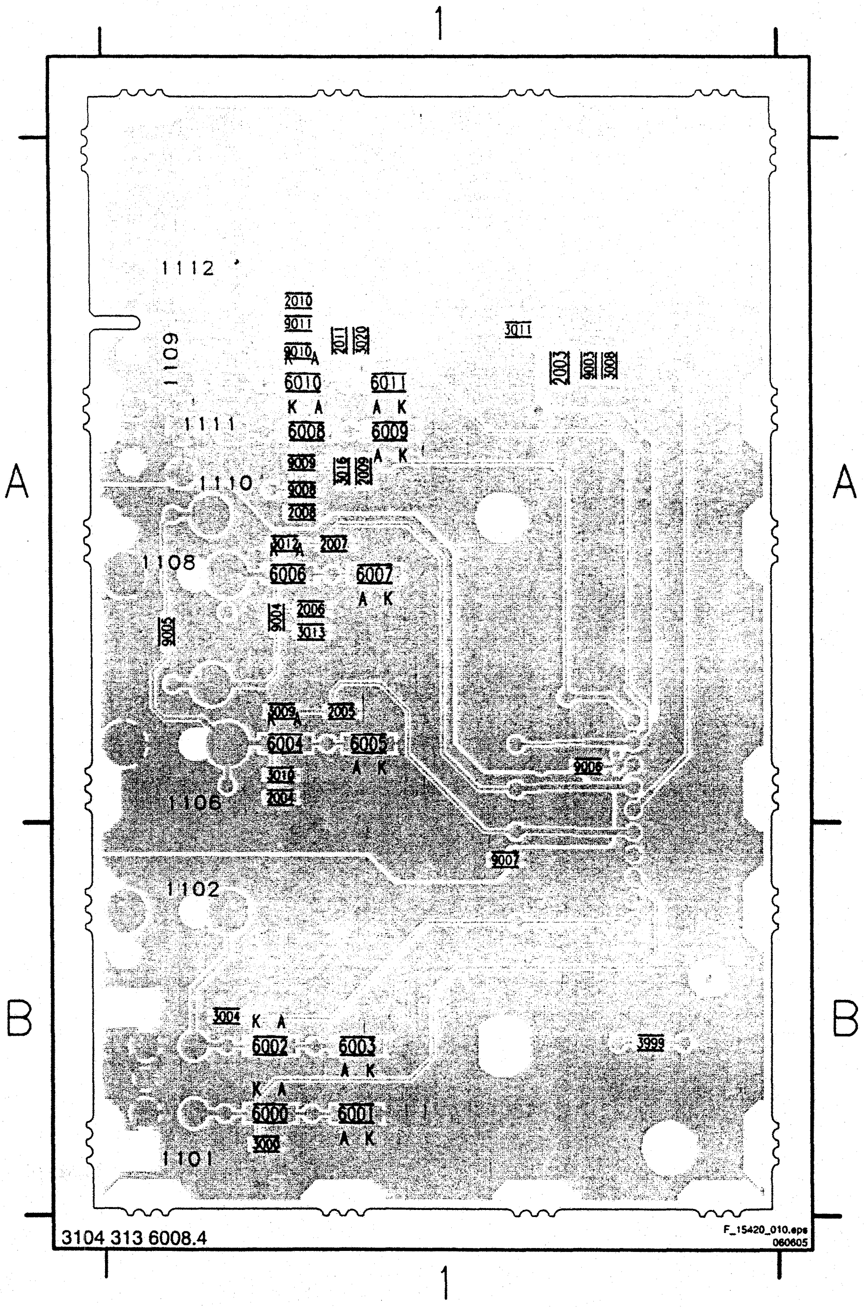
1001 B2
1002-1 B1
1002-2 C1
1002-3 D1
1005 A8
1010 E1
1050 A7
1101 A3
1102 B3
1106 C3
1108 D3
1109 E3
1110 F3
1111 E3
1112 A7
1H01 A6
1M36 B8
1M37 B8
2003 C5
2004 C3
2005 C4
2006 D3
2007 D4
2008 F2
2009 F5
2010 E2
2011 E5
3000 A4
3004 B3
3008 C5
3009 C4
3010 C4
3011 C5
3012 D4
3013 D4
3016 F5
3020 E5
3999 F9
5000 A7
6000 A3
6001 A3
6002 B3
6003 B3
6004 C3
6005 C3
6006 D3
6007 D3
6008 F3
6009 F3
6010 E3
6011 F3
9003 C6
9004 C2
9005 D2
9006 F7
9007 F8
9008 F4
9009 F4
9010 E4
9011 E4
F001 A2
F002 A2
F003 B2
F004 C2
F005 C2
F006 D2
F007 E2
F008 E2
F009 E2
F010 F8
F011 F9
F012 A6
F013 A7
F014 A6
F015 A7
F016 A6
F017 A7
F018 F7
F019 F2
F020 B4
F021 C6
F022 C6
F023 C6
F024 E6
F025 E6
I001 C2
I002 C3
I003 D2
I004 A3
I005 F4
I006 F4
I007 E4
I008 E4
I009 B3
I010 D3
I011 F7
I012 F8
I013 F3
I014 E3

Layout Side I/O Panel (Top Side)


1
A
B
1H01
1 4
1050
5000
1005
1112
1010
1105
1111
1110
1108
1002
1106
1102
1001
1101
1M36
1M37
SAC LF alloy
Pb
PHILIPS
3104 313 6008.4
F_15420_009.eps
060605

1001	B1
1002	A1
1005	A1
1010	A1
1050	A1
1H01	A1
1M36	B1
1M37	B1
5000	A1

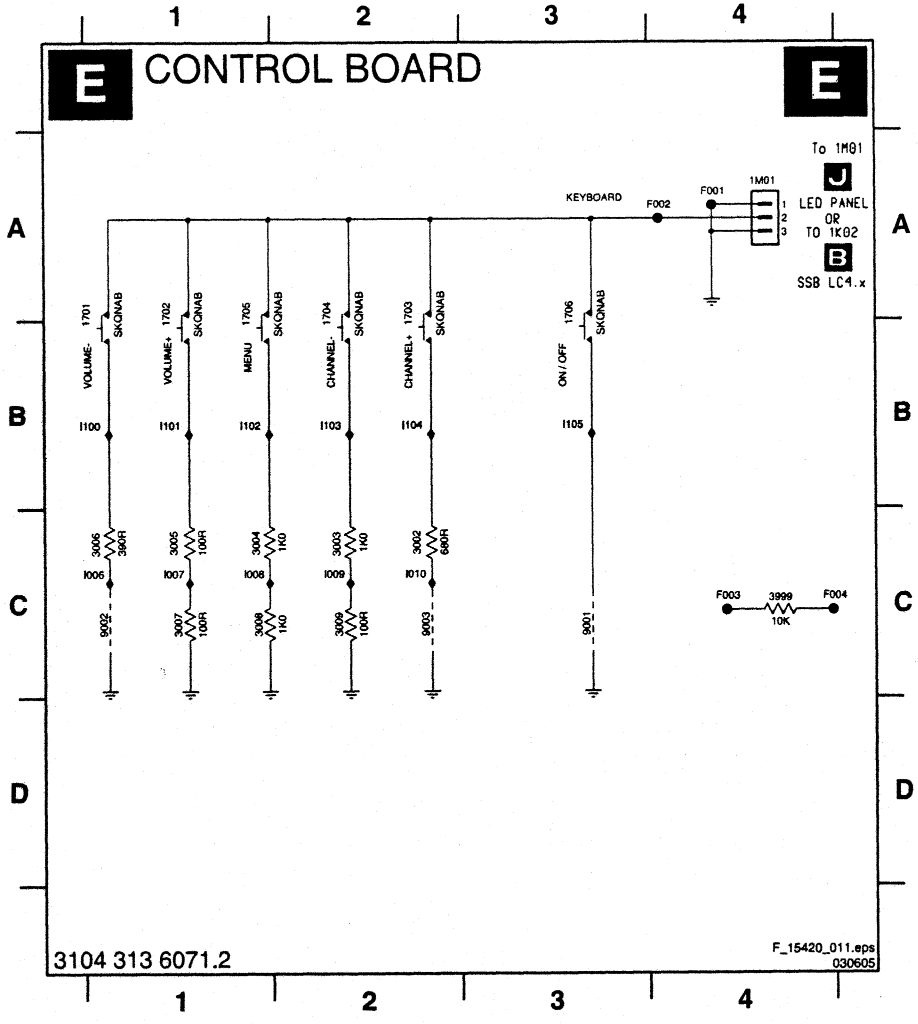
Layout Side I/O Panel (Bottom Side)


1
A
B
1112
1109
1111
1110
1108
1106
1102
1101
2010
9011
9010
2011
3020
6010
6011
6008
6009
9009
9008
2008
3016
2009
3011
2003
9003
3008
3012
2007
6006
6007
9004
2006
3013
9005
3009
2005
6004
6005
3010
2004
9006
9007
3004
6002
6003
6000
6001
3000
3999
K A
A K
3104 313 6008.4
F_15420_010.eps
060605

2003	A1
2004	A1
2005	A1
2006	A1
2007	A1
2008	A1
2009	A1
2010	A1
2011	A1
3000	B1
3004	B1
3008	A1
3009	A1
3010	A1
3011	A1
3012	A1
3013	A1
3016	A1
3020	A1
3999	B1
6000	B1
6001	B1
6002	B1
6003	B1
6004	A1
6005	A1
6006	A1
6007	A1
6008	A1
6009	A1
6010	A1
6011	A1
9003	A1
9004	A1
9005	A1
9006	A1
9007	B1
9008	A1
9009	A1
9010	A1
9011	A1

Control Board

1701 A1
1702 A1
1703 A2
1704 A2
1705 A1
1706 A3
1M01 A4
3002 C2
3003 C2
3004 C1
3005 C1
3006 C1
3007 C1
3008 C1
3009 C2
3999 C4
9001 C3
9002 C1
9003 C2
F001 A4
F002 A4
F003 C4
F004 C4
I006 C1
I007 C1
I008 C1
I009 C2
I010 C2
I100 B1
I101 B1
I102 B1
I103 B2
I104 B2
I105 B3

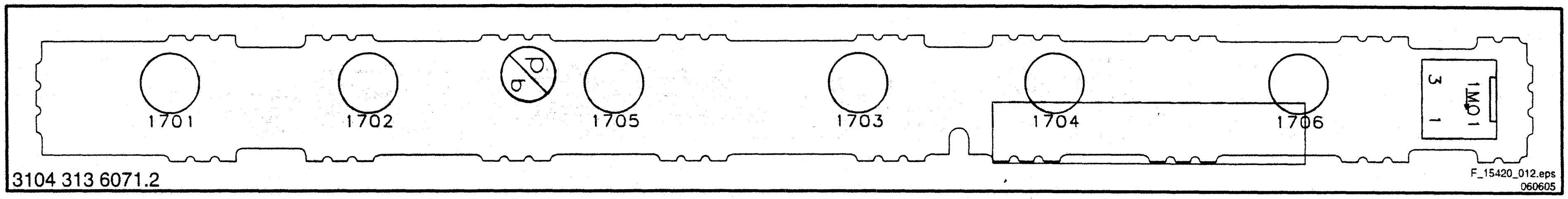

1
2
3
4
A
B
C
D
E
CONTROL BOARD
E
To 1M01
J
LED PANEL
OR
TO 1K02
B
SSB LC4.x
1M01
1
2
3
F001
F002
KEYBOARD
1701
SKQNAB
VOLUME-
1702
SKQNAB
VOLUME+
1705
SKQNAB
MENU
1704
SKQNAB
CHANNEL-
1703
SKQNAB
CHANNEL+
1706
SKQNAB
ON / OFF
I100
I101
I102
I103
I104
I105
3006
390R
3005
100R
3004
1K0
3003
1K0
3002
680R
I006
I007
I008
I009
I010
9002
3007
100R
3008
1K0
3009
100R
9003
9001
F003
3999
10K
F004
3104 313 6071.2
F_15420_011.eps
030605

Personal Notes:

E_06532_012.eps
131004

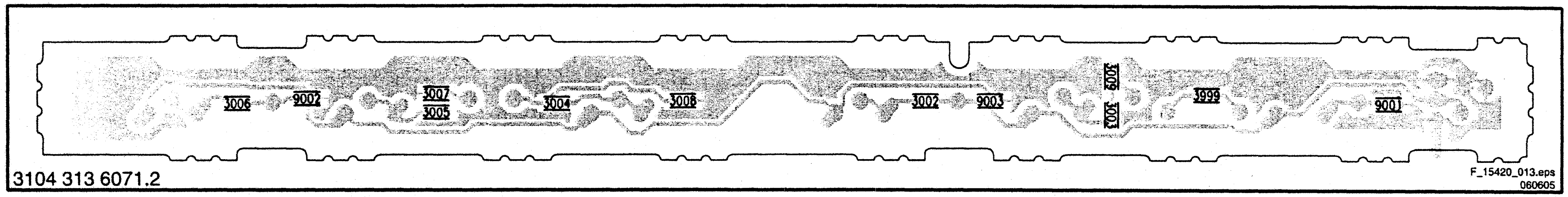
Layout Control Board (Top Side)

1701 --
1702 --
1703 --
1704 --
1705 --
1706 --
1M01 --

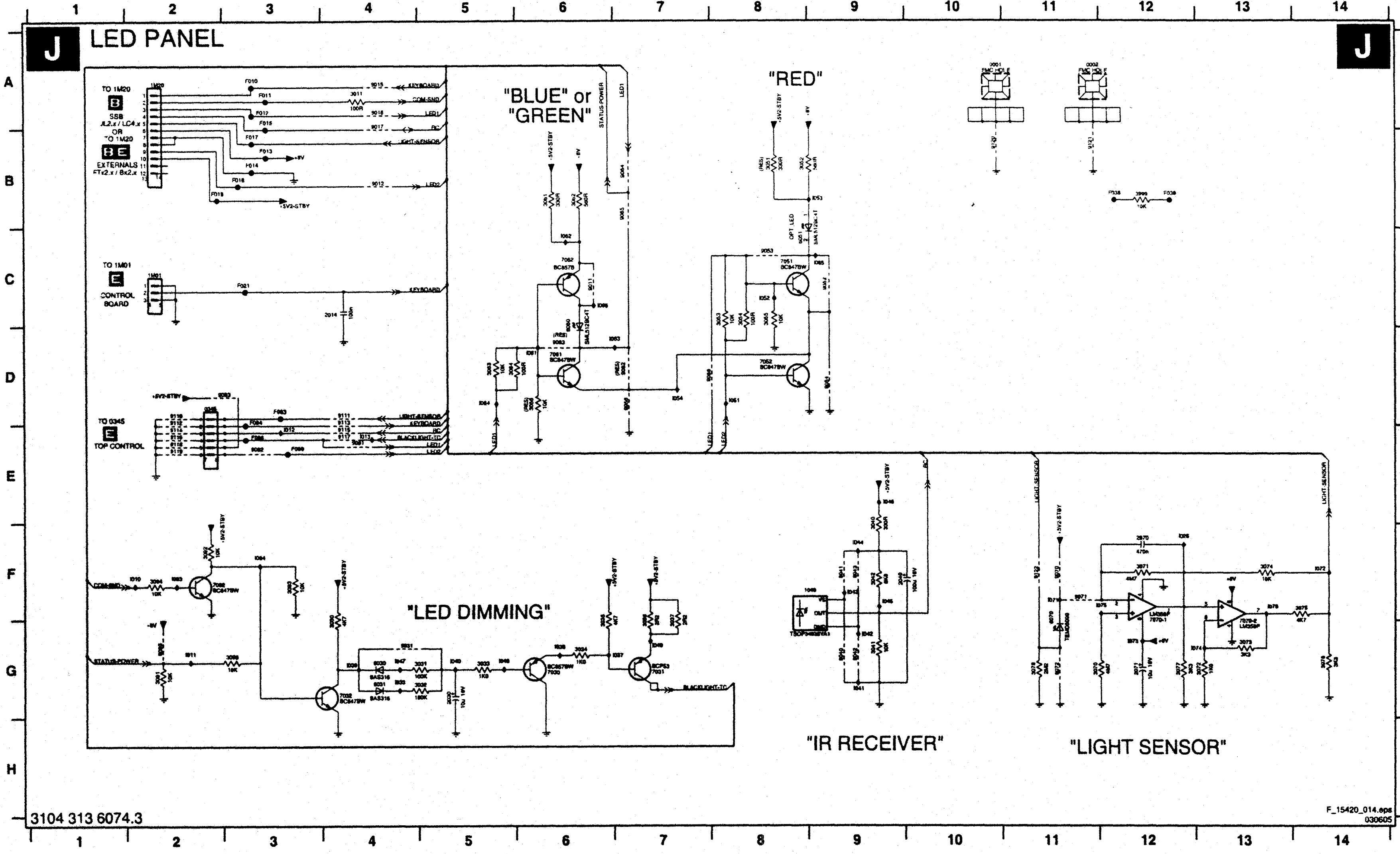

1701
1702
1705
1703
1704
1706
1M01
3
1
3104 313 6071.2
F_15420_012.eps
060605

Layout Control Board (Bottom Side)

3002 --
3003 --
3004 --
3005 --
3006 --
3007 --
3008 --
3009 --
3999 --
9001 --
9002 --
9003 --

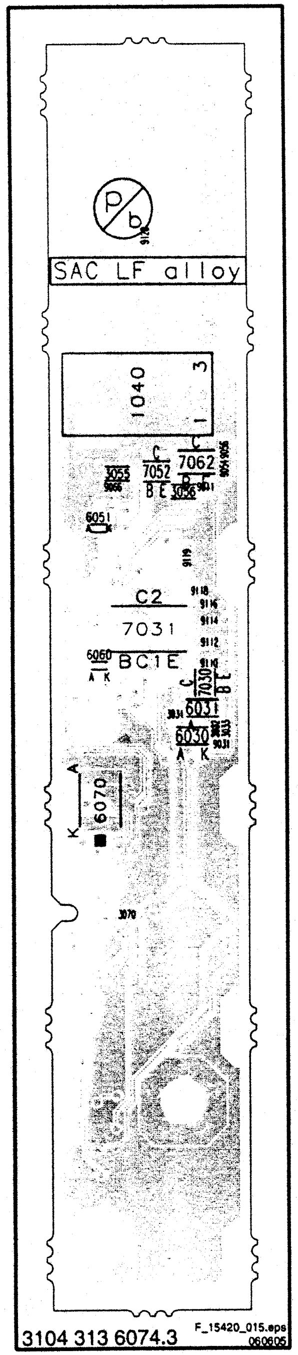

3006
9002
3007
3005
3004
3008
3002
9003
3009
3003
3999
9001
3104 313 6071.2
F_15420_013.eps
060605

LED Panel

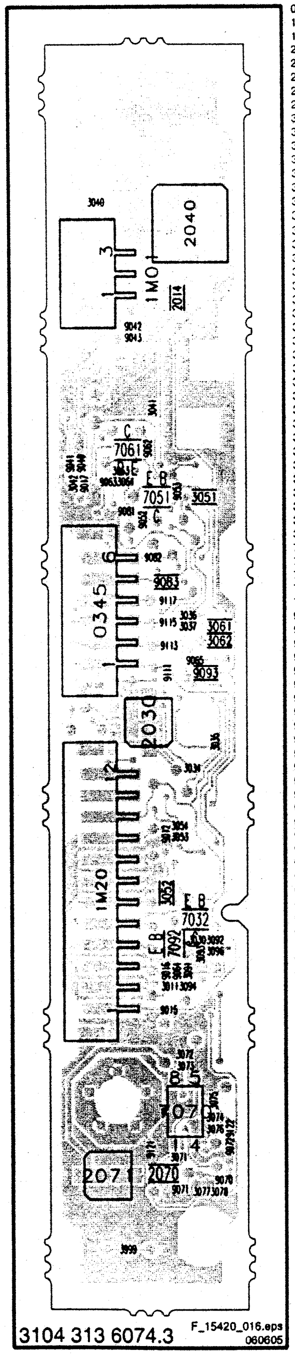

J
LED PANEL
"BLUE" or "GREEN"
"RED"
"LED DIMMING"
"IR RECEIVER"
"LIGHT SENSOR"
TO 1M20
SSB
OR
TO 1M20
EXTERNALS
TO 1M01
CONTROL BOARD
TO 0345
TOP CONTROL
KEYBOARD
COM-SND
LED1
RC
LIGHT-SENSOR
LED2
+5V2-STBY
+8V
STATUS-POWER
BLACKLIGHT-TC
BC847BW
BC857B
BAS316
TSOP34836NA1
LM358P
3104 313 6074.3
F_15420_014.eps
030605
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H

0001	A10
0002	A11
0345	D2
1040	F9
1M01	C2
1M20	A2
2014	C4
2030	G5
2040	F9
2070	F12
2071	G12
3011	A4
3030	G4
3031	G5
3032	G5
3033	G5
3034	G6
3035	G6
3036	G7
3037	G7
3040	F9
3041	G9
3042	F9
3051	B8
3052	B8
3053	C8
3054	C8
3055	C8
3056	D6
3061	B6
3062	B6
3063	D5
3064	D5
3070	G11
3071	F12
3072	G13
3073	G13
3074	F13
3075	F14
3076	G14
3077	G12
3078	G11
3091	G2
3092	F2
3093	F3
3094	F2
3096	G3
3999	B12
6030	G4
6031	G4
6051	C8
6060	C6
6070	G11
7030	G6
7031	G7
7032	G4
7051	C8
7052	D8
7061	D6
7062	C6
7070-1	F12
7070-2	G13
7092	F2
9011	C6
9012	B4
9015	A4
9016	A4
9017	A4
9031	G4
9040	G9
9041	F9
9042	G9
9043	F9
9052	C9
9053	C8
9054	D9
9056	D7
9062	D7
9063	D6
9064	B7
9065	B7
9066	D7
9070	F11
9071	F11
9072	G11
9081	E4
9082	E3
9083	D3
9093	G2
9110	D2
9111	D4
9112	D2
9113	D4
9114	E2
9115	E4
9116	E2
9117	E4
9118	E2
9119	E2
9120	B10
9121	B11
9122	F11
F010	A3
F011	A3
F012	A3
F013	B3
F014	B3
F015	A3
F016	B3
F017	B3
F018	B2
F021	C3
F038	B12
F039	B12
F083	D3
F084	D3
F088	E3
F089	E3
I010	F2
I011	G2
I012	E3
I013	E4
I026	F12
I033	G4
I037	G7
I038	G6
I039	G4
I040	G5
I041	G9
I042	G9
I043	F9
I044	F9
I045	F9
I046	E9
I047	G4
I048	G5
I049	G7
I051	D8
I052	C8
I053	B9
I054	D7
I061	D6
I062	C6
I063	D7
I064	D5
I065	C9
I071	F11
I072	F14
I073	G12
I074	G12
I075	F12
I076	F13
I093	F2
I094	F3
I095	C8

Layout LED Panel


SAC LF alloy
1040
3055
7052
7062
6051
C2
7031
BC1E
6060
7030
6031
6030
6070
3070
3104 313 6074.3
F_15420_015.eps
060605

1040 –
3031 –
3032 –
3033 –
3055 –
3056 –
3070 –
6030 –
6031 –
6051 –
6060 –
6070 –
7030 –
7031 –
7052 –
7062 –
9011 –
9031 –
9054 –
9056 –
9066 –
9110 –
9112 –
9114 –
9116 –
9118 –
9119 –
9120 –


3040
2040
1M01
2014
7061
7051
3051
0345
3061
3062
9083
9093
2030
1M20
7032
7092
2071
2070
7070
3999
3104 313 6074.3
F_15420_016.eps
060605

0345 –
1M01 –
1M20 –
2014 –
2030 –
2040 –
2070 –
2071 –
3011 –
3030 –
3034 –
3035 –
3036 –
3037 –
3040 –
3041 –
3042 –
3051 –
3052 –
3053 –
3054 –
3061 –
3062 –
3063 –
3064 –
3071 –
3072 –
3073 –
3074 –
3075 –
3076 –
3077 –
3078 –
3091 –
3092 –
3093 –
3094 –
3096 –
3999 –
7032 –
7051 –
7061 –
7070 –
7092 –
9012 –
9015 –
9016 –
9017 –
9040 –
9041 –
9042 –
9043 –
9052 –
9053 –
9062 –
9063 –
9064 –
9065 –
9070 –
9071 –
9072 –
9081 –
9082 –
9083 –
9093 –
9111 –
9113 –
9115 –
9117 –
9121 –
9122 –

Personal Notes:

E_06532_012.eps
131004

8. Alignments

Index of this chapter:

8.1 General Alignment Conditions
8.2 Hardware Alignments
8.3 Software Alignments

Note: Figures below can deviate slightly from the actual situation, due to the different set executions.

General: The Service Default Mode (SDM) and Service Alignment Mode (SAM) are described in chapter 5. Menu navigation is done with the Cursor Up, Down, Left or Right keys of the remote control transmitter.

8.1 General Alignment Conditions

Perform all electrical adjustments under the following conditions:
Mains voltage and frequency: 100-240 V / 50/60 Hz.
Allow the set to warm up for approximately 10 minutes.
Test probe: Ri > 10 MΩ; Ci < 2.5 pF.

8.2 Hardware Alignments

There are no hardware alignments foreseen for the plasma-TV.

8.3 Software Alignments

With the software alignments of the Service Alignment Mode (SAM) the geometry, white tone and tuner (IF) can be aligned. To store the data: Use the RC button Menu to switch to the main menu and next, switch to 'Stand-by' mode.

8.3.1 SAM Menu

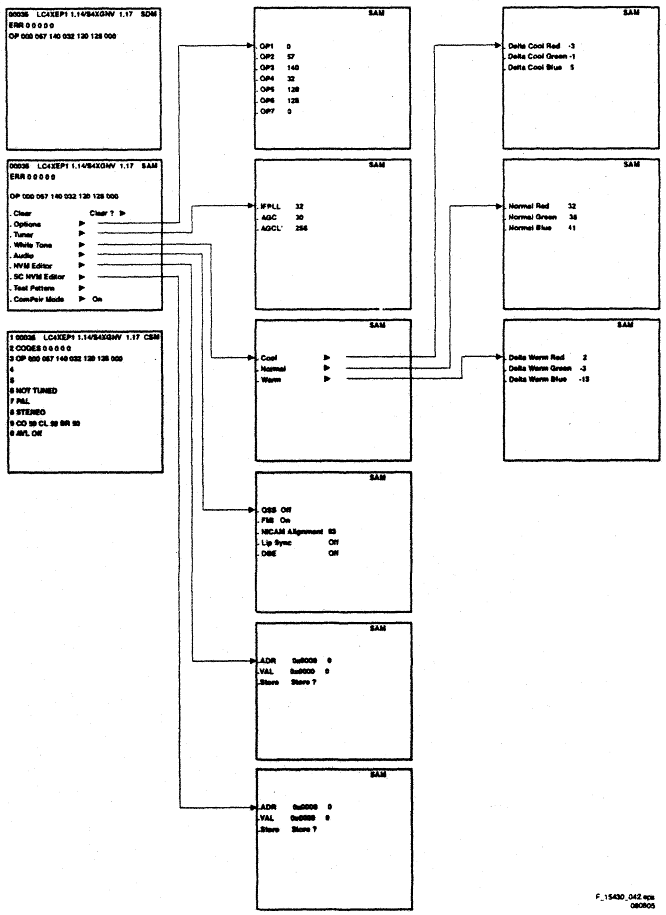

00036 LC4XEP1 1.14/84XGNV 1.17 SDM
ERR 0 0 0 0 0
OP 000 067 140 032 120 128 000
00036 LC4XEP1 1.14/84XGNV 1.17 SAM
ERR 0 0 0 0 0
OP 000 067 140 032 120 128 000
. Clear Clear ? ▶
. Options ▶
. Tuner ▶
. White Tone ▶
. Audio ▶
. NVM Editor ▶
. SC NVM Editor ▶
. Test Pattern ▶
. ComPair Mode ▶ On
1 00036 LC4XEP1 1.14/84XGNV 1.17 CSM
2 CODES 0 0 0 0 0
3 OP 000 067 140 032 120 128 000
4
5
6 NOT TUNED
7 PAL
8 STEREO
9 CO 50 CL 50 BR 50
0 AVL Off
SAM
. OP1 0
. OP2 57
. OP3 140
. OP4 32
. OP5 120
. OP6 128
. OP7 0
SAM
. IFPLL 32
. AGC 30
. AGCL' 256
SAM
. Cool ▶
. Normal ▶
. Warm ▶
SAM
. OSS Off
. FMI On
. NICAM Alignment 83
. Lip Sync Off
. DBE Off
SAM
.ADR 0x0000 0
.VAL 0x0000 0
.Store Store ?
SAM
.ADR 0x0000 0
.VAL 0x0000 0
.Store Store ?
SAM
. Delta Cool Red -3
. Delta Cool Green -1
. Delta Cool Blue 5
SAM
. Normal Red 32
. Normal Green 36
. Normal Blue 41
SAM
. Delta Warm Red 2
. Delta Warm Green -3
. Delta Warm Blue -13
F_15430_042.eps
080805

Figure 8-1 Overview SAM menu.

8.3.2 Tuner Adjustment

AGC (RF AGC Take Over Point)

- Activate the SAM menu.
- Go to the sub-menu Tuner.
- Select the AGC sub-menu.
- Adjust the AGC value to AGC = 27.
- Adjust the AGC L' value to AGC L' = 27 (Europe only).
- Adjust the IFPLL value to IFPLL = 32 (Europe only).
- Switch the set to standby to store the data.

8.3.3 DCXO (Digital Xtal Oscillator) Alignment (for NICAM sets only)

- Input a Colour bar signal with a colour subcarier frequency of 4.43 MHz on SCART1 or SCART2.
- Select as a signal source EXT1 or AV1.
- Go to the SAM menu and select Audio.
- Activate DCXO Alignment and wait until this process has finished (DONE).
- Check if the NICAM audio reception is OK, if not: repeat the procedure.
- Switch the set to standby to store the data.

8.3.4 ADC Gain and Grey Scale Alignment

The table below shows a number of NVM settings used for each model of TV set. Be sure to use the correct editor in the SAM menu (NVM Editor or SC NVM Editor), because the first one is used for the Hercules NVM, and the second one for the SCALER (SC) part of the TV set. For further important NVM settings, see also the other NVM tables elsewhere in this manual.

Caution:

- **Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- **Do not change the Scaler NVM settings, as this will hamper the DVI functionality of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the orgininal settings, if the new settings turn out to be incorrect.

Table 8-1 ADC gain and grey scale alignment

SDTV ADC Gain settings: Use the NVM Editor in SAM to set these values in the Hercules NVM					
		These models are with ADC & Columbus 3D Combfilter			
Setting	Hercules NVM Address (decimal value)	50PF7320/10	42PF7320/10	42PF5320/10	Settings Range (decimal value)
NVM_ADC_GAIN_R	006	143	143	143	075 - 155
NVM_ADC_GAIN_G	007	191	191	191	200 - 250
NVM_ADC_GAIN_B	008	143	143	143	075 - 155

SDTV Greyscale settings: Use the SC NVM Editor in SAM to set these values in the Scaler NVM					
		These models are with ADC & Columbus 3D Combfilter			
Setting	Scaler NVM Address (decimal value)	50PF7320/10	42PF7320/10	42PF5320/10	Settings Range (decimal value)
ADC_RED_OFFSET2	338	080	080	080	050 - 110
ADC_GRN_OFFSET2	339	080	080	080	050 - 110
ADC_BLU_OFFSET2	340	080	080	080	050 - 110
ADC_RED_GAIN	341	154	154	154	045 - 095
ADC_GRN_GAIN	343	154	154	154	045 - 095
ADC_BLU_GAIN	345	154	154	154	045 - 095
PC Greyscale settings					
		These models are with ADC & Columbus 3D Combfilter			
Setting	Scaler NVM Address (decimal value)	50PF7320/10	42PF7320/10	42PF5320/10	Settings Range (decimal value)
ADC_RED_OFFSET2	325	080	080	080	040 - 090
ADC_GRN_OFFSET2	326	080	080	080	040 - 090
ADC_BLU_OFFSET2	327	080	080	080	040 - 090
ADC_RED_GAIN	328	154	154	154	180 - 270
ADC_GRN_GAIN	330	154	154	154	180 - 270
ADC_BLU_GAIN	332	154	154	154	180 - 270
HD Greyscale settings					
		These models are with ADC & Columbus 3D Combfilter			
Setting	Scaler NVM Address (decimal value)	50PF7320/10	42PF7320/10	42PF5320/10	Settings Range (decimal value)
ADC_RED_OFFSET2	351	064	064	064	050 - 090
ADC_GRN_OFFSET2	352	082	082	082	050 - 090
ADC_BLU_OFFSET2	353	064	064	064	050 - 090
ADC_RED_GAIN	354	159	159	159	120 - 200
ADC_GRN_GAIN	356	144	144	144	120 - 200
ADC_BLU_GAIN	358	147	147	147	120 - 200

8.3.5 Sound

- For NICAM sets: see paragraph 8.3.3.
- For other sets: No adjustments needed for sound.

8.3.6 Options

Options OP1...OP7 in the SAM menu can be used for quickly restoring 64 features or settings of the HERCULES part of the TV set to their orginal default factory values (8 groups of 8 features/settings each). When the decimal value of one option byte OP1...OP7 is changed (see the first table below) then a group of 8 bits, representing 8 HERCULES options or features, is changed as well (see the second table below for a detailed description of the features or settings that are changed).
The second table shows which option byte (OP1...OP7) represents which group of 8 option bits. Each bit (0...7) switches a particular HERCULES feature or setting ON or OFF, depending on its value (1 or 0).
It is also possible to change the features or settings mentioned in the second table directly at bit level, by means of the NVM Editor in the SAM menu. In the NVM Editor, first the correct NVM address (ADR) has to be entered, then the correct value (VAL, 1 or 0) for each bit (see second table), and finally the settings have to be stored (STORE). For quickly restoring the HERCULES part of the TV set to its original factory settings, however, it is more convenient to simply enter the default factory settings OP1...OP7 that are given in the first table below. How to do this, is described in the next paragraph.

How to Change an Option Byte
As has been explained above, an Option byte (OP) represents a number of different HERCULES options. Changing these bytes directly makes it possible to set all HERCULES options very fast. All options are controlled via seven option bytes. Select the option byte (OP1.. OP7) with the Menu Up/ Down keys, and enter the new (decimal) value. For the correct Factory Default settings, see the first table below. For more detailed information, see the second table.

Leaving the Option submenu saves the changes in the Option Byte settings. Some changes will only take effect after the set has been switched "off" and "on" with the AC power switch (cold start).

Table 8-2 Option codes OP1...OP7

Option table for quickly restoring the HERCULES to its Factory Default settings			
Model number	50PF7320/10	42PF7320/10	42PF5320/10
OP1	152	152	152
OP2	37	37	37
OP3	79	79	15
OP4	241	241	241
OP5	252	252	252
OP6	27	27	27
OP7	19	19	19
Options (can be changed only via the SAM menu)	Total decimal value for each option per model number		

How to Change Options at Bit Level
If you wish to know which features or settings of the HERCULES are changed via OP1...OP7, or if you want to change each option or feature bit by bit, use the more detailed table below.
Note: the table below contains only part of the NVM settings that can be changed. A second range of settings and features can be found in Chapter 5 of this manual, in table **NVM Default values**. The settings mentioned there can only be changed via the NVM editor. For further settings, see also the table "ADC Gain and Grey scale alignment" elsewhere in this manual.

Table 8-3 Option codes in detail, at bit level

Option byte & bit table for restoring the TV set to its original Factory Default settings via the NVM Editor in the SAM menu				
	Model number	50PF7320/10	42PF7320/10	42PF5320/10
OP1	**Description of feature/option to be switched ON or OFF**			
bit 7 (msb)	OP_PHILIPS_TUNER	1	1	1
bit 6	OP_FM_RADIO	0	0	0
bit 5	OP_LNA	0	0	0
bit 4	OP_ATS // for EU	1	1	1
bit 3	OP_ACI	1	1	1
bit 2	OP_UK_PNP	0	0	0
bit 1	OP_VIRGIN_MODE	0	0	0
bit 0 (lsb)	OP_CHINA	0	0	0
	Total DEC Value	152	152	152
	Total HEX Value	98	98	98
OP2				
bit 7 (msb)	OP_SC	0	0	0
bit 6	OP_IBEX	0	0	0
bit 5	OP_CHANNEL_NAMING	1	1	1
bit 4	OP_LTI (Lum Transcient Improvmt)	0	0	0
bit 3	OP_TILT	0	0	0
bit 2	OP_FINE_TUNING	1	1	1
bit 1	OP_PIP_PHILIPS_TUNER	0	0	0
bit 0 (lsb)	OP_HUE	1	1	1
	Total DEC Value	37	37	37
	Total HEX Value	25	25	25
OP3				
bit 7 (msb)	OP_EW_FUNCTION	0	0	0
bit 6	OP_PIXEL_PLUS	1	1	0
bit 5	OP_PIP_SPLITTER // temp	0	0	0
bit 4	OP_SPLITTER // temp	0	0	0
bit 3	OP_VIRTUAL_DOLBY	1	1	1
bit 2	OP_WIDE_SCREEN	1	1	1
bit 1	OP_WSSB	1	1	1
bit 0 (lsb)	OP_OP_ME5 // OP_ME5 - 5/6 local buttons implementation	1	1	1
	Total DEC Value	79	79	15
	Total HEX Value	4F	4F	0F
OP4				
bit 7 (msb)	OP_LIP_SYNC	1	1	1
bit 6	OP_HD	1	1	1
bit 5	OP_ULTRA_BASS	1	1	1
bit 4	OP_DELTA_VOLUME	1	1	1
bit 3	OP_TAIWAN_KOREA	0	0	0
bit 2	OP_VOLUME_LIMITER	0	0	0
bit 1	OP_STEREO_DBX	0	0	0
bit 0 (lsb)	OP_STEREO_NICAM_2CS	1	1	1
	Total DEC Value	241	241	241
	Total HEX Value	F1	F1	F1
OP5				
bit 7 (msb)	OP_AV1	1	1	1
bit 6	OP_AV2	1	1	1
bit 5	OP_AV3	1	1	1
bit 4	OP_CVI	1	1	1
bit 3	OP_SVHS2	1	1	1
bit 2	OP_SVHS3	1	1	1
bit 1	OP_HOTEL_MODE	0	0	0
bit 0 (lsb)	OP_SIMPLY_FACTORY=OP_BTSC_AVSTEREO	0	0	0
	Total DEC Value	252	252	252
	Total HEX Value	FC	FC	FC
OP6				
bit 7 (msb)	OP_PERSONAL_ZAPPING	0	0	0
bit 6	OP_SMART_SURF	0	0	0
bit 5	OP_FMTRAP	0	0	0
bit 4	OP_COMBFILTER	1	1	1
bit 3	OP_ACTIVE_CONTROL	1	1	1
bit 2	OP_VIDEO_TEXT	0	0	0
bit 1	OP_LIGHT_SENSOR	1	1	1
bit 0 (lsb)	OP_TWIN_TEXT	1	1	1
	Total DEC Value	27	27	27
	Total HEX Value	1B	1B	1B
OP7				
bit 7 (msb)	OP_TIME_WIN1	0	0	0
bit 6	OP_DVB_USB = OP_MALAY	0	0	0
bit 5	OP_AMBILIGHT	0	0	0
bit 4	OP_COLUMBUS	1	1	1
bit 3	OP_DUMMY6	0	0	0
bit 2	OP_DUMMY7	0	0	0
bit 1	OP_WEST_EU	1	1	1
bit 0 (lsb)	OP_MULTI_STANDARD_EUR	1	1	1
	Total DEC Value	19	19	19
	Total HEX Value	03	03	03

9. Circuit Descriptions, Abbreviation List, and IC Data Sheets

Index of this chapter:

9.1 Introduction
9.2 Block Diagram
9.3 Input/Output
9.4 Tuner and IF
9.5 Video: TV Part (Diagrams B1, B2, and B3)
9.6 Columbus
9.7 Video: Scaler Part (Diagram B7, B8 and B9)
9.8 Audio Processing
9.9 Control
9.10 Abbreviation List
9.11 IC Data Sheets

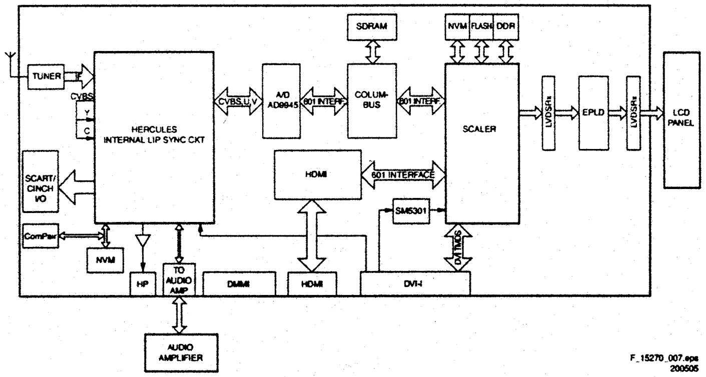
9.1 Introduction

The "LC4.9 Plasma TV" is a global plasma TV for the year 2005. It is the successor of the "LC4.7" and has a screen size of 42 inch or 50 inch (in 16:9 ratio); it has a new styling, called Entry+ 05. There are two different picture qualities available, depending on the model: Pixel Plus and Digital Crystal Clear. The block diagram below (Figure "Block diagram") shows the Pixel Plus architecture; the architecture of the Digital Crystal Clear model is shown in the block diagram on the next page (Figure "Block diagram of the internal building blocks").

The architecture consists of a TV and Scaler panel, an EPLD (only in the Pixel Plus model), an I/O panel, a Side I/O and Local Keyboard panel and a Power Supply panel.
The functions for video/audio processing, microprocessor (µP), and CC/Teletext (TXT) decoder are all combined in one IC (TDA150xx, item 7217), the so-called third generation Ultimate One Chip (UOC-III) or "Hercules". This chip has the following features:

- Control, small signal, mono/stereo, and extensive Audio/Video switching in one IC.
- Upgrade with digital sound & video processing.
- Alignment free IF, including SECAM-L/L1 and AM.
- FM sound 4.5/5.5/6.0/6.5, no traps/bandpass filters.
- Full multi-standard colour decoder.
- One Xtal reference for all functions (microprocessor, RCP, TXT/CC, RDS, colour decoder, and stereo sound processor).

9.2 Block Diagram



F_15270_007.eps
200505

Figure 9-1 Block Diagram

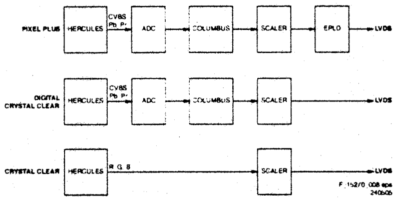
The PLL tuner UV1318 delivers the IF-signal, via audio & video SAW-filters, to the Video Signal Processor and FLASH embedded TEXT/Control/Graphics Micro Controller TDA120x1 (item 7011, also called Hercules). This IC has the following functions:

- Analogue Video Processing
- Sound Demodulation
- Audio Interfaces and switching
- Volume and tone control for loudspeakers
- Reflection and delay for loudspeaker channels
- Micro Controller
- Data Capture
- Display

The Hercules has one input for the internal CVBS signal and a video switch with 3 external CVBS inputs and a CVBS output. All CVBS inputs can be used as Y-input for Y/C signals. However, only 2 Y/C sources can be selected because the circuit has 2 chroma inputs. It is possible to add an additional CVBS(Y)/C input (CVBS/YX and CX) when the YUV interface and the RGB/YPRPB input are not needed. Two SCART-connectors are used: SCART1 is for RGB-in, video in (CVBS) and terrestrial out (CVBS), and SCART2 is meant for VCR (CVBS out and Y/C in). The CVBS-out on pin 19 of SCART2 can be used for monitoring purposes: WYSIWYR (What You See Is What You Record).
Depending on the model of the TV set, the Hercules delivers its RGB signals either directly to the Scaler IC or indirectly, via a Columbus chip (for 2D/3D comb filtering and spatial/temporal noise reduction, for its description: see further down in this text). The EPLD, which is present in Pixel Plus models, provides additional sharpening to the picture. For a general outline, see the table and the block diagrams below, in which the architectures of the various models are given, together with their electronic building blocks.

Table 9-1 Models and picture quality

Model	Picture quality
50PF7320/10	Pixel Plus
42PF7320/10	Pixel Plus
42PF5320/10	Digital Crystal Clear



F_15270_008.eps
240606

Figure 9-2 Block diagram of the internal building blocks

The Genesis GM1501 Malibu Scaler IC can receive two video input signals: SDTV (directly from Hercules or via Columbus), DVI (from an external DVI source), or PC (from external computer).
After the video processing, the digital data is sent via a Low Voltage Differential Signalling bus to the LCD panel. LVDS is used to improve data speed and to reduce EMI significantly.
There are two I^{2}C lines and two interrupt and communication lines (TV_IRQ and TV_SC_COM) for the Scaler control. The Scaler communicates with the Hercules as a slave device. To avoid buffer overflow at the Scaler side, the TV_SC_COM line provides the necessary hardware flow control. To allow bi-directional communication, the Scaler can initiate a service interrupt-request to the Hercules via the TV_IRQ line.

The Hercules, and EEPROM are supplied with 3.3 V, which is also present during STANDBY.
The EEPROM, or NVM (Non Volatile Memory) is used to store the settings.

The sound part is built up around the Hercules. The Source Selection, Decoding and Processing are all done by the Hercules.

Power supply input are several DC voltages coming from a supply panel.

9.3 Input/Output

The I/O is divided over two parts: Rear I/O and Side I/O. The rear has two SCART inputs, a PC/DVI-I input (VGA to DVI-I via an external adaptor) and an Audio input. The side has a CVBS and Y/C (SVHS) input, combined with L+R audio inputs, and has also a headphone output.

EXT1: The input of SCART1 is CVBS + RGB + L/R and the output is the video (+ sound) signal from the tuner (SC1_CVBS_RF_OUT).

EXT2: The input of SCART2 is Y/C + CVBS + L/R. The output signal is CVBS_SC2_MON_OUT (+ sound).
SCART2 is meant for VCR and has therefore some additional signals in relation to EXT1 but no RGB: it has the possibility for Y/C_in: Y_in on pin 20 and Chroma_in on pin 15.
The selection of the external I/O's is controlled by the Hercules.

PC In (DVI-I, or VGA via external VGA to DVI-I adaptor): This input is directly going to the Scaler IC. See paragraph "Video: Scaler Part".

9.4 Tuner and IF

A Philips UV1318 Tuner is used in the TV board. The SIF signals are decoded by the Hercules. Tuning is done via I^{2}C.

9.4.1 Video IF Amplifier

The IF-filter is integrated in a SAW (Surface Acoustic Wave) filter. One for filtering IF-video (1104, in some models: 1105) and one for IF-audio (1106). The type of these filters depends on the standard(s) that has/have to be received.

The output of the tuner is controlled via an IF-amplifier with AGC-control. This is a voltage feedback from pin 31 of the Hercules to pin 1 of the tuner. The AGC-detector operates on top sync and top white level. AGC take-over point is adjusted via the service alignment mode 'Tuner' - 'AGC'. If there is too much noise in the picture, then it could be that the AGC setting is wrong. The AGC-setting could also be mis-aligned if the picture deforms with perfect signal; the IF-amplifier amplifies too much.

9.5 Video: TV Part (Diagrams B1, B2, and B3)

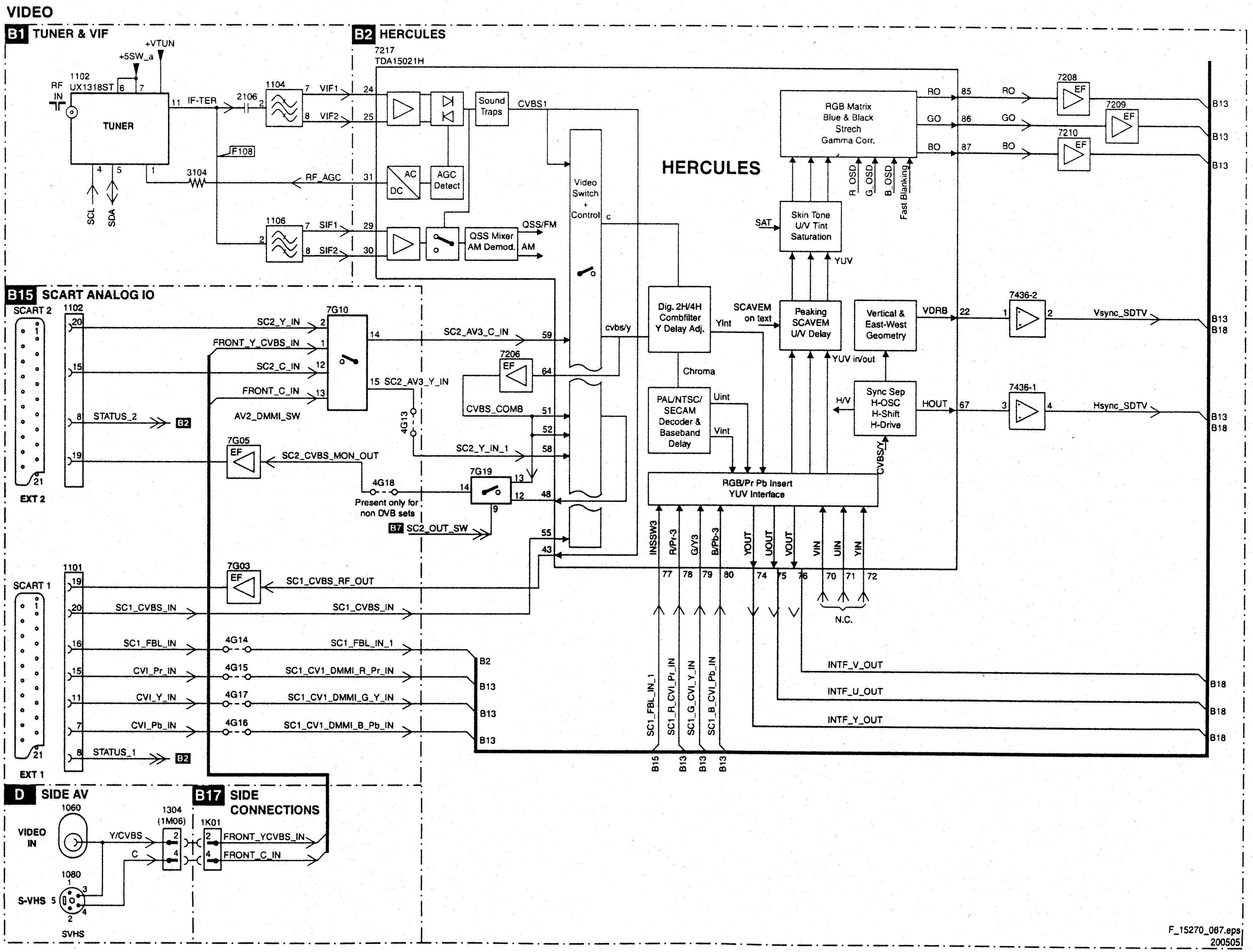

VIDEO
B1 TUNER & VIF
+VTUN
+5SW_a
1102
UX1318ST
RF IN
TUNER
IF-TER
2106
1104
VIF1
VIF2
F108
3104
SCL
SDA
1106
SIF1
SIF2
B2 HERCULES
7217
TDA15021H
Sound Traps
CVBS1
AC DC
AGC Detect
RF_AGC
QSS Mixer AM Demod.
QSS/FM
AM
Video Switch + Control
cvbs/y
HERCULES
RGB Matrix Blue & Black Strech Gamma Corr.
R_OSD
G_OSD
B_OSD
Fast Blanking
Skin Tone U/V Tint Saturation
SAT
YUV
Dig. 2H/4H Combfilter Y Delay Adj.
Yint
SCAVEM on text
Peaking SCAVEM U/V Delay
YUV in/out
Vertical & East-West Geometry
VDRB
Chroma
PAL/NTSC/ SECAM Decoder & Baseband Delay
Uint
Vint
Sync Sep H-OSC H-Shift H-Drive
H/V
HOUT
CVBS/Y
RGB/Pr Pb Insert YUV Interface
INSSW3
R/Pr-3
G/Y3
B/Pb-3
YOUT
UOUT
VOUT
VIN
UIN
YIN
N.C.
RO
GO
BO
7208
7209
7210
EF
7436-2
Vsync_SDTV
7436-1
Hsync_SDTV
B13
B18
B15 SCART ANALOG IO
SCART 2
7G10
SC2_Y_IN
FRONT_Y_CVBS_IN
SC2_C_IN
FRONT_C_IN
AV2_DMMI_SW
SC2_AV3_C_IN
SC2_AV3_Y_IN
STATUS_2
7206
CVBS_COMB
4G13
SC2_IN_1
7G05
SC2_CVBS_MON_OUT
4G18
Present only for non DVB sets
7G19
B7 SC2_OUT_SW
EXT 2
SCART 1
1101
7G03
SC1_CVBS_RF_OUT
SC1_CVBS_IN
SC1_FBL_IN
4G14
SC1_FBL_IN_1
CVI_Pr_IN
4G15
SC1_CV1_DMMI_R_Pr_IN
CVI_Y_IN
4G17
SC1_CV1_DMMI_G_Y_IN
CVI_Pb_IN
4G16
SC1_CV1_DMMI_B_Pb_IN
STATUS_1
EXT 1
SC1_FBL_IN_1
SC1_R_CVI_Pr_IN
SC1_G_CVI_Y_IN
SC1_B_CVI_Pb_IN
INTF_V_OUT
INTF_U_OUT
INTF_Y_OUT
D SIDE AV
1060
VIDEO IN
Y/CVBS
C
1080
S-VHS
SVHS
1304 (1M06)
B17 SIDE CONNECTIONS
1K01
FRONT_YCVBS_IN
FRONT_C_IN
F_15270_067.eps 200505

Figure 9-3 Block diagram video processing

The video processing is completely handled by the Hercules
- IF demodulator.
- Chrominance decoder
- Sync separator.
- Horizontal & vertical drive.
- RGB processing.
- CVBS and SVHS source select.

It has also built-in features like:
- CTI.
- Black stretch.
- Blue stretch.
- White stretch.
- Slow start up.
- Dynamic skin tone correction etc.

Further, it also incorporates sound IF traps and filters, and requires only one crystal for all systems.

9.6 Columbus

9.6.1 Introduction

The Columbus is a combination of:
- A **2D/3D Comb filter** for both PAL and NTSC, and
- A **spatial/temporal noise reduction system** for both colour and luminance signals.

The Columbus 3D Comb filter uses digitalised CVBS, U, and V (or C) signals and can be used with or without an external 16 Mbit SDRAM. Without external 16Mbit SDRAM, 3D comb filtering and temporal noise reduction are not possible.

The noise reduction part of the Columbus is controlled by the FBX software using the SNERT interface. The 2D/3D Comb filter part is controlled by the Main software using the I^{2}C bus.

9.6.2 2D/3D Comb Filter

Introduction

The "3D Comb filter Columbus" is a combined 2D/3D Comb filter function that is part of the Columbus chip (circuit diagram B19, item 7M00). It is a comb filter for both PAL and NTSC.

The 3D Comb filter is used to separate chroma and luminance components out of a CVBS signal. It is of no use when the CVBS signal is a SECAM signal (SECAM signals cannot be combed) The Columbus chip can be used with or without 16 Mbit external SDRAM (circuit diagram B10, item 7B01). When an external SDRAM is connected to the IC, the Comb filter function can work in combined 2D/3D processing (depending on the detected pixel based motion). When no external SDRAM is connected, only 2D Comb filtering is possible.

The Columbus can comb the following standard signals:
- PAL B, PAL G, PAL H, PAL I, PAL D, PAL K: Colour standard PAL, Colour carrier at 4.43 MHz, field frequency: 50 Hz
- PAL M: Colour standard PAL, Colour carrier at 3.58 MHz, field frequency: 60 Hz
- PAL N: Colour standard PAL, Colour carrier at 3.58 MHz, field frequency: 50 Hz
- NTSC M: Colour standard NTSC, Colour carrier at 3.58 MHz, field frequency: 60 Hz

For NTSC signals, the PAL delay line must always be bypassed.

The following signals CANNOT be combed:
- Double Window signals or Multi PIP. For these signals, only one part or even no part of the signal is in relation with the burst. The part that is not in relation with the burst can become very blurred when combed by the Columbus Comb filter. Such a signal must be bypassed. Notch mode is not even an option since e.g. in double window, one part can be a PAL signal while the other part is NTSC or SECAM.
- In cases where a SECAM signal is presented to the Columbus Comb filter; both the luminance and UV path must be bypassed. The PAL delay line inside the Columbus cannot be used for SECAM signals so it must also be bypassed. The luminance path must have luminance at its input instead of CVBS. A chroma delay line outside Columbus must be used for SECAM signals. Reason for this: the Columbus PAL delay line halves the output of the chroma signals in case of SECAM.
- Y/C, YPbPr, and RGB signals do not have to be combed. So both the luminance and UV path must be bypassed. The PAL delay line will also be bypassed.
- In cases where the Columbus Comb filter does not receive a CVBS signal with burst at the right place according to the standard (this includes black and white signals without burst), phase correction results become unpredictable and the Comb filter must be set in bypass (= luminance path bypassed, UV path bypassed, PAL delay line bypassed)
- VCR signals cannot be combed and must be processed in notch mode, or bypassed.

Columbus Modes

The several modes of the Columbus 3D Comb filter are:
- Bypass mode.
- Band-Pass-Notch mode.
- 2D Comb filter modes.
  - Simple median.
  - Median.
- Field Comb filter mode.
- Frame Comb filter mode.

Bypass Mode

The 3D Comb filter can be set in bypass mode. In this mode, the CVBS, U and V signals are just bypassed to the output.

Band-Pass-Notch Mode

This is a mode where no Comb filtering is applied. A "Band Pass Filter" is used to filter the chroma information out of the CVBS signal. A "Notch Filter" is used to subtract the sub carrier out of the CVBS in order to make a luminance signal without chroma sub carrier.
In terms of cross colour and cross luminance, this mode has the worst performance of all. It is only used on these signals where no comb filtering can be applied (non-standard signals and most VCR signals for example).

2D Comb Filter Modes

A Comb filter does an action on a current pixel and a delayed pixel. When the delayed pixel is a line-delayed pixel, we talk about a "Spatial or 2D Comb Filter" (for NTSC the delay must be 1 line, for PAL it must be 2 lines).
Spatial or 2D Comb filters show problems on vertical colour transients and on single coloured lines. For these situations, extra hardware is added in the Columbus chip to avoid these kinds of problems. However even with these extra measures, there are still situations where the 2D Comb filter does not perform optimally (diagonal resolution and single lines with equal luminance content). In order to restrict the working area of the 2D Comb filter to the frequencies where the sub carrier is present, a horizontal band pass filter always precedes a 2D Comb filter.
When a 2D Comb filter has no extra hardware to avoid problems at vertical colour transients (or this extra hardware is switched "off"), the Comb filter is called a "simple median filter". When there is extra hardware to avoid these kinds of problems, the filter is called a "median filter".

Field Comb Filter Mode

A Comb filter does an action on a current pixel and a delayed pixel. When the delayed pixel is a field-delayed pixel, we talk about a "Field Comb Filter". Field Comb filters are only for PAL of commercial interest.
Field Comb filters show also problems on vertical colour transients and on motion. For the vertical transients, a hanging dots detector has been added, however the performance on vertical transients of the field Comb filter, even with this hanging dots detector, is worse than the performance of the 2D Comb filter. On motion, the field Comb filter performs very badly. A motion detector must detect the pixels where there is motion and on these pixels, the Comb filter must be forced back to 2D Comb filter mode. This switching back is not implemented with a hard switch, but with a motion controlled fader. When there is a lot of motion, the fader will take a lot of the 2D Comb filter output, when there is less motion, more field-combed signal will be taken.
A field Comb filter is also called a "vertical-temporal filter" because it filters in the vertical and temporal direction.

Frame Comb Filter Mode

A Comb filter does an action on a current pixel and a delayed pixel. When the delay is a frame, we talk about a "Frame Comb Filter". For NTSC we need a delay of one frame, for PAL however the delay must be two frames.
Frame Comb filters have the best performance, but just like the Field Comb filter, they perform very badly on motion. A motion detector will have to detect motion and on these motion pixels, 2D Comb filtering will have to be applied. A frame Comb filter is a pure "temporal filter".
The Columbus needs an external memory connected to it, before it can do a temporal or vertical-temporal Comb filter action. When no external memory is connected, field or frame Comb filtering is impossible.

Block Diagram

In the next block diagram, two main parts of the Columbus 2D/3D Comb filter can be seen:
- The upper part is what is called the luminance Comb filter. It tries to make an as clean as possible luminance signal out of the CVBS signal at the input.
- The lower part receives U and V signals (sequentially) that are normally only band pass filtered in front of the 3D Comb filter. It filters all left over luminance signals out of it, in order to make an as clean as possible U and V signal.

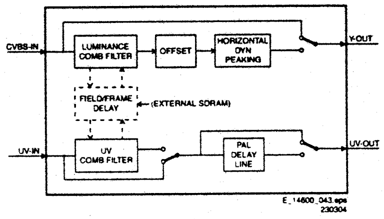


Figure 9-4 Columbus 2D/3D Comb Filter block diagram

The Comb filter has two inputs. One is the CVBS where clean luminance (Y) will be extracted from; the other one is UV where a clean U and V signal will be extracted. Both input signals are **digital** signals.

The field or frame delay is used for the Field and Frame Comb filter mode. An external memory connected to the Columbus IC provides this delay.

Phase correction is done at the inputs of both the Comb filter blocks. There is a phase correction for spatial filtering (called the spatial phase corrector) and a separate phase correction on the signals used for temporal (Frame or Field) Comb filtering (called the temporal phase corrector).

The offset block receives the motion dependant 2D/3D Comb filtered signal as input. The black level of the luminance signal is restored and the result is output. The black level restoration is corrected continuously. However, on VCR signals, this restoration can become unstable. Therefore, on VCR signals, a fixed black level restoration value must be forced.

A horizontal dynamic peaking can be done on the luminance signal. This peaking is adaptive in order not to amplify any cross luminance distortion. It detects where there could be left over sub carrier in the luminance signal and reduces the peaking over there. The detection of the left over cross luminance is different depending on the pre-filter or post-filter mode.
The amount of peaking and coring can be chosen. The peaking algorithm behind it is a simplified copy of the luminance peaking of picnic. After the peaking block, the signal is output as clean luminance.

The bypass switches have the obvious purpose of bypassing the input signal, in case no Comb filtering is wanted.

A PAL delay line is added in the UV path. This is done because a delay line in front of the 3D Comb filter does need an extra vertical filter action on the UV signals. This vertical filtering deteriorates the vertical transient performance for colours. The Columbus Comb filter cannot undo this. However, this reduction in performance can be omitted by putting the PAL delay line after the 3D Comb filter block.
For PAL signals, the PAL delay line in front of the Columbus 3D Comb filter is bypassed and the Columbus delay line is switched "on". In cases where the delay line in front of Columbus cannot be bypassed, the Columbus PAL delay line is bypassed.
For NTSC signals, the PAL delay line is bypassed as usual.

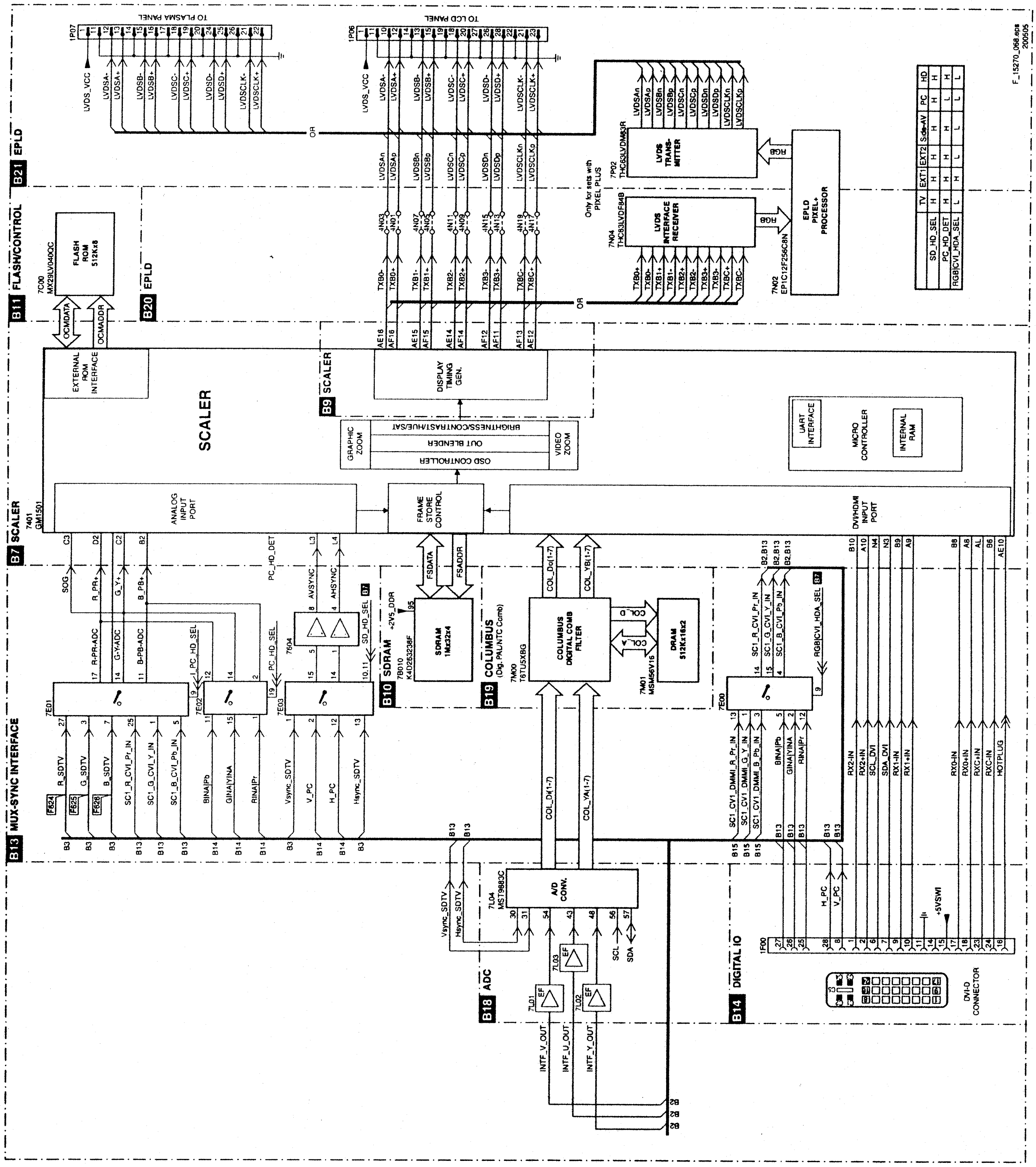
9.6.3 Noise Reduction and Noise Estimator

The noise reduction function is a sophisticated successor of the noise reduction module from the PICNIC-chip, also known as "LIMERIC".

Besides the noise reduction part, the Columbus noise reduction module also comprises a noise estimator. This noise estimator (the LORE-noise estimator) is a new design with the ambition of more accuracy and with less control complexity than the existing noise estimators.

9.7 Video: Scaler Part (Diagram B7, B8 and B9)

The Genesis gm1501 Scaler is a dual channel graphics and video processing IC for LCD and plasma monitors and televisions incorporating Picture in Picture, up to SXGA output resolutions. The Scaler controls the display processing in an LCD or plasma TV, e.g. like the deflection circuit in a CRT-based TV. It controls all the view modes (e.g. like "zooming" and "shifting"). Features like PC (VGA) or HD inputs, are also handled by this part.


B13 MUX-SYNC INTERFACE
B7 SCALER
7401 GM1501
B11 FLASH/CONTROL
7C00 MX29LV040QC
FLASH ROM 512Kx8
B21 EPLD
B20 EPLD
B9 SCALER
B10 SDRAM
7B010 K4D263238F
SDRAM 1Mx32x4
B19 COLUMBUS (Dig. PAL/NTC Comb)
7M00 T6TU5XBG
COLUMBUS DIGITAL COMB FILTER
7M01 MSM56V16
DRAM 512Kx16x2
B18 ADC
7L04 MST9883C
A/D CONV.
B14 DIGITAL IO
1F00
DVI-D CONNECTOR
SCALER
EXTERNAL ROM INTERFACE
ANALOG INPUT PORT
FRAME STORE CONTROL
DVI/HDMI INPUT PORT
GRAPHIC ZOOM
VIDEO ZOOM
OSD CONTROLLER
OUT BLENDER
BRIGHTNESS/CONTRAST/HUE/SAT
DISPLAY TIMING GEN.
UART INTERFACE
MICRO CONTROLLER
INTERNAL RAM
OCMDATA
OCMADDR
FSDATA
FSADDR
1P07 TO PLASMA PANEL
1P06 TO LCD PANEL
LVDS_VCC
Only for sets with PIXEL PLUS
7N04 THC63LVDF84B
LVDS INTERFACE RECEIVER
7P02 THC63LVDM83R
LVDS TRANS-MITTER
7N02 EP1C12F256C8N
EPLD PIXEL+ PROCESSOR
RGB
OR
7E01
7E02
7E03
7E00
7604
7L01
7L02
7L03
EF
R_SDTV
G_SDTV
B_SDTV
SC1_R_CVI_Pr_IN
SC1_G_CVI_Y_IN
SC1_B_CVI_Pb_IN
BINA|Pb
GINA|YINA
RINA|Pr
Vsync_SDTV
V_PC
H_PC
Hsync_SDTV
R-PR-ADC
G-Y-ADC
B-PB-ADC
SOG
R_PR+
G_Y+
B_PB+
I_PC_HD_SEL
PC_HD_SEL
PC_HD_DET
AVSYNC
AHSYNC
SD_HD_SEL
+2V5_DDR
COL_D(1-7)
COL_YA(1-7)
COL_Do(1-7)
COL_YB(1-7)
COL_A
COL_D
INTF_V_OUT
INTF_U_OUT
INTF_Y_OUT
SCL
SDA
SC1_CV1_DMMI_R_Pr_IN
SC1_CV1_DMMI_G_Y_IN
SC1_CV1_DMMI_B_Pb_IN
RGB|CVI_HDA_SEL
RX2-IN
RX2+IN
SCL_DVI
SDA_DVI
RX1-IN
RX1+IN
+5VSWI
RX0-IN
RX0+IN
RXC+IN
RXC-IN
HOTPLUG
TXB0- TXB0+ TXB1- TXB1+ TXB2- TXB2+ TXB3- TXB3+ TXBC- TXBC+
LVDSAn LVDSAp LVDSBn LVDSBp LVDSCn LVDSCp LVDSDn LVDSDp LVDSCLKn LVDSCLKp
LVDSA- LVDSA+ LVDSB- LVDSB+ LVDSC- LVDSC+ LVDSD- LVDSD+ LVDSCLK- LVDSCLK+
F_15270_068.eps 200505

	TV	EXT1	EXT2	Side-AV	PC	HD
SD_HD_SEL	H	H	H	H	H	H
PC_HD_DET	H	H	H	H	L	H
RGB|CVI_HDA_SEL	L	H	L	L	L	L

Figure 9-5 Block diagram scaler part

9.7.1 Teletext Path

In Pixel Plus and Digital Crystal Clear models, which have an ADC (B18) and Columbus 3D combfilter (B19), the digital input of the scaler is used for the digital video signal (Columbus output), whereas the analogue RGB input input of the scaler is used for teletext. This means that no mixed mode (video plus teletext simultaneously) is possible. In Crystal Clear models, which do not have an ADC and Columbus, the analogue RGB input of scaler is used for both video and teletext (generated by the Hercules). The digital input of the Scaler is not used in Crystal Clear TV sets. See also the block diagrams at the beginning of this chapter. When faultfinding, checking the teletext path may be useful: if there is sound and teletext, but no video and user menu (blank screen), the digital path (Hercules - ADC - Columbus - Scaler) is faulty. If there is sound but no teletext, the back-end part (Scaler - LCD panel) is faulty.

9.7.2 Features

The Scaler provides several key IC functions:
- Scaling.
- Auto-configuration/ Auto-Detection.
- Various Input Ports:
  - Analog RGB.
  - Video Graphics.
- Integrated LVDS Transmitter.
- On-chip Micro-controller

9.7.3 Inputs

Analog RGB
The RGB input is fed to pins B2, C2 and D2 of the Scaler IC (Genesis GM1501, item 7801, see circuit diagram B8). This input consists of either the Hercules RGB output or the RGB/ YpbPr input of the VGA connector. The Scaler can switch between the two signals via the PC_HD_SEL signal and selection IC SM5301 (see circuit diagram B13).

PC (VGA) Input
The VGA input is processed by the VGA block of the Scaler. The Scaler supports pixel frequencies up to 165MHz. YpbPr format is also supported via the VGA interface and covers a resolution of 480p/560p/720p/1080i.

9.7.4 Output

The Display Output Port provides data and control signals that permit the Scaler to connect to a variety of display devices using a TTL or LVDS interface. The output interface is configurable for single or dual wide TTL/LVDS in 18, 24 or 30-bit RGB pixels format. All display data and timing signals are synchronous with the DCLK output clock. The integrated LVDS transmitter is programmable to allow the data and control signals to be mapped into any sequence depending on the specified receiver format.

9.8 Audio Processing

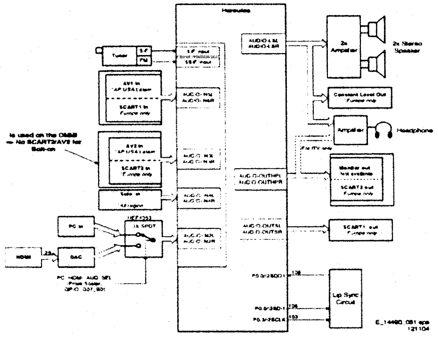


Figure 9-6 Block diagram audio processing

The audio decoding is done entirely via the Hercules. The IF output from the Tuner is fed directly to either the Video-IF or the Sound-IF input depending on the type of concept chosen. There are mainly two types of decoder in the Hercules, an analogue decoder that decodes only Mono, regardless of any standards, and a digital decoder (or DEMDEC) that can decode both Mono as well as Stereo, again regardless of any standards.

In this chassis, the analogue decoder is used in two cases:
- It is used for AM Sound demodulation in the Europe SECAM LL' transmission.
- It is used for all FM demodulation in AV-Stereo sets.

9.8.1 Diversity

The diversity for the Audio decoding can be broken up into two main concepts:
- The Quasi Split Sound concept used in Europe and some AP sets.
- The Inter Carrier concept, used in NAFTA and LATAM.

The UOC-III family makes no difference anymore between QSS- and Intercarrier IF, nearly all types are software-switchable between the two SAW-filter constructions.

Simple data settings are required for the set to determine whether it is using the Inter Carrier or the QSS concept. These settings are done via the "QSS" and "FMI" bit found in SAM mode. Due to the diversity involved, the data for the 2 bits are placed in the NVM location and it is required to write once during startup.

On top of that, it can be further broken down into various systems depending on the region. The systems or region chosen, will in turn affect the type of sound standard that is/are allowed to be decoded.
- For the case of Europe, the standard consists of BG/DK/I/LL' for a Multi-System set. There are also versions of Eastern Europe and Western Europe set and the standard for decoding will be BG/DK and I/DK respectively. FM Radio (not applicable for the models discussed in this manual) is a feature diversity for some Europe TV sets. The same version can have either FM Radio or not, independent of the system (e.g. sets with BG/DK/I/LL' can have or not have FM radio).
- For the case of NAFTA and LATAM, there is only one transmission standard, which is the M standard. The diversity then will be based on whether it has a dBx noise reduction or a Non-dBx (no dBx noise reduction).
- For the case of AP, the standard consists of BG/DK/I/M for a Multi-System set. The diversity here will then depend on the region. AP China can have a Multi-System and I/DK version. For India, it might only be BG standard.

9.8.2 Functionality

The features available in the Hercules are as follows:
- Treble and Bass Control.
- Surround Sound Effect that includes:
  - Incredible Stereo.
  - Incredible Mono.
  - 3D Sound (not for AV Stereo).
  - TruSurround (not for AV Stereo).
  - Virtual Dolby Surround, VDS422 (not for AV Stereo).
  - Virtual Dolby Surround, VDS423 (not for AV Stereo).
  - Dolby Pro-Logic (not for AV Stereo).
- Bass Feature that includes:
  - Dynamic Ultra-Bass.
  - Dynamic Bass Enhancement.
  - BBE (not for AV Stereo).
- Auto-Volume Leveler.
- 5 Band Equalizer.
- Loudness Control.

All the features stated are available for the Full Stereo versions and limited features for the AV Stereo

9.8.3 Audio Amplifier

The audio amplifier part is very straightforward. It uses two integrated TDA8931T power amplifiers for the L and R channels; each amplifier IC is able to deliver a maximum output of 20 W_{RMS} continuously in a 4-6 ohm speaker without needing a heatsink.
The operating supply for the amplifier may range from 12 V to 32 V; in the LC04x TV set, depending on the model, supply voltages of 18 V (for the 5 W / 8 ohm version) or 24 V (for the 15 W / 4 ohm version) are used.
Muting is done via the SOUND_ENABLE line connected to pins 7 of both amplifier-ICs, which comes from the Hercules.

9.8.4 Audio: Lip Sync

No Lip Sync adjustments are neccessary in this model.

9.9 Control

9.9.1 Hercules

The System Board has two main micro-controllers on board. These are:
- On-chip x86 micro-controller (OCM) from Genesis LCD or plasma TV/Monitor Controller.
- On-chip 80C51 micro-controller from Philips Semiconductor UOCIII (Hercules) series.

Each micro-controller has it own I^2C bus which hosts its own internal devices.
The Hercules is integrated with the Video and Audio Processor. For dynamic data storage, such as SMART PICTURE and SMART SOUND settings, an external NVM IC is being used. Another feature includes an optional Teletext/Closed Caption decoder with the possibility of different page storage depending on the Hercules type number.

9.9.2 Block Diagram

The block diagram of the Micro Controller application is shown below.

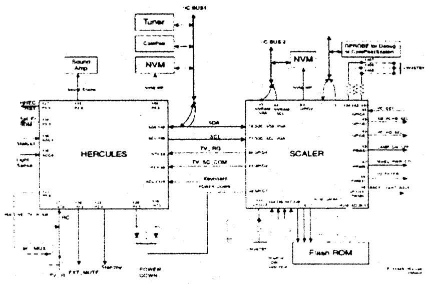


Figure 9-7 Micro Controller block diagram

9.9.3 Basic Specification

The Micro Controller operates at the following supply voltages:
- +3.3 V_{DC} at pins 4, 88, 94, and 109.
- +1.8 V_{DC} at pins 93, 96, and 117.
- I^2C pull up supply: +3.3V_{DC}.

9.9.4 Pin Configuration and Functionality

The ports of the Micro Controller can be configured as follows:
- A normal input port.
- An input ADC port.
- An output Open Drain port.
- An output Push-Pull port.
- An output PWM port.
- Input/Output Port

The following table shows the ports used for the LC04 control:

Table 9-2 Micro Controller ports overview

Pin	Name	Description	Configuration
97	INT0/ P0.5	IR	INT0
98	P1.0/ INT1	TV_IRQ	INT2
99	P1.1/ T0	TV_SC_COM	P1.1
102	P0.4/ I2SWS	EXT_MUTE	P0.4
103	P0.3/ I2SCLK	Lip Sync	I2SCLK
104	P0.2/ I2SDO2	NVM_WP	P0.2
105	P0.1/ I2SDO1	Lip Sync	I2SDO1
106	P0.0/ I2SDI/O	Lip Sync	I2SDI/O
107	P1.3/ T1	PC-TV_LED	P1.3
108	P1.6/ SCL	SCL	SCL
109	P1.7/ SDA	SDA	SDA
111	P2.0/ TPWM	SOUND_ENABLE	P2.0
112	P2.1/ PWM0	(for future use)	-
113	P2.2/ PWM1	(for future use)	-
114	P2.3/ PWM2	SEL_IF	P2.3
115	P3.0/ ADC0	Light Sensor - SDM	ADC0
116	P3.1/ ADC1	STATUS_1	ADC1
119	P3.2/ ADC2	STATUS_2	ADC2
120	P3.3/ ADC3	KEYBOARD	ADC3
122	P2.4/ PWM3	STANDBY	P2.4
123	P2.5/ PWM4	(for future use)	-
126	P1.2/ INT2	(for future use)	-
127	P1.4/ RX	HERC_RESET	-
128	P1.5/ TX	POWER_DOWN	P1.5

The description of each functional pin is explained below:

- **LED.** This signal is used as an indication for the Standby, Remote and Error Indicator. Region diversity:
  - During protection mode, the LED blinks and the set is in standby mode.
  - During error conditions it blinks at a predefined rate.
  - After receiving a valid RC-5 or local keyboard command it flashes once.
  - For sets with error message indication, the LED blinks when message is active and the set is in standby mode.
- **SCL.** This is the clock wire of the two-wire single master bi-directional I^2C bus.
- **SDA.** This is the data wire of the two-wire single master bi-directional I^2C bus.
- **STANDBY.** The Hercules generates this signal. This can enable the power supply in normal operation and disable it during Standby. It is of logic "high" (3.3 V) under normal operation and "low" (0 V) during Standby.
- **IR.** This input pin is connected to an RC5 remote control receiver.
- **SEL-IF.** This is an output pin to switch the Video SAW filter between M system and other systems.
  - 0: NTSC M (default)
  - 1: PAL B/G, DK, I, L
- **NVM_WP.** The global protection line is used to enable and disable write protection to the NVM. When write to the NVM is required, pin 7 of the NVM must be pulled to logic '0' first (via Write_Protect of the micro-controller pin) before a write is performed. Otherwise pin 7 of NVM must always be at logic "1"
  - 0: Disabled
  - 1: Enabled (default)
- **SOUND_ENABLE.** This pin is used to MUTE the audio amplifier. It is configured as push pull.
- **STATUS_1.** This signal is used to read the status of the SCART 1 input.
- **STATUS_2.** This signal is used to read the status of the SCART 2 input.
- **HERC_RESET.** This pin is used to switch the +1.8V supply.
- **POWER_DOWN.** The power supply generates this signal. Logic "high" (3.3 V) under normal operation of the TV and goes "low" (0 V) when the Mains input voltage supply goes below 70 V_{AC}.
- **KEYBOARD.** Following are the Keyboard functions and the step values (8 bit) for it.

Table 9-3 Local keyboard values

Function	Voltage (V_{DC})	Step values (8 bit)
NAFTA Standby	0	0 - 6
Ch +	0.43	7 - 33
Exit Factory (Ch- and Vol-)	0.69	34 - 53
Ch -	0.93	54 - 73
Menu (Vol - and Vol +)	1.19	74 - 96
Vol -	1.49	97 - 121
DVD Eject (not applicable)	1.8	122 - 147
Vol +	2.12	148 - 169

- **TV_IRQ.** This signal is the interrupt from the Scaler IC.
- **TV_SC_COM.** This signal is used for the communication with the Scaler IC.
- **EXT_MUTE.** This signal is used to reduce the Switch-off plop.

9.10 Abbreviation List

0/6/12	SCART switch control signal on A/V board. 0 = loop through (AUX to TV), 6 = play 16:9 format, 12 = play 4:3 format
1080i	1080 visible lines, interlaced
1080p	1080 visible lines, progressive scan
2CS	2 Carrier Sound (or 2 Channel Stereo)
480i	480 visible lines, interlaced
480p	480 visible lines, progressive scan
ACI	Automatic Channel Installation: algorithm that installs TV channels directly from a cable network by means of a predefined TXT page
ADC	Analogue to Digital Converter
AFC	Automatic Frequency Control; Control signal used to tune and lock to the correct frequency
AGC	Automatic gain control (feedback) signal to the tuner. This circuit ensures a constant output amplitude regardless of the input amplitude
AM	Amplitude Modulation; A "data encoding to a carrier" method, such that the carrier amplitude is proportional to the data value
AP or A/P	Asia Pacific
AR	Aspect Ratio: 4 by 3 or 16 by 9
ASD	Automatic Standard Detection
AV	External Audio Video
B-SC1-IN	Blue SCART1/EXT1 in
B-SC2-IN	Blue SCART2/EXT2 in
B-TXT	Blue TeleteXT
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz. B= VHF-band, G= UHF-band
BOCMA	Bimos one Chip Mid-end Architecture: video and chroma decoder
C-FRONT	Chrominance front input
CBA	Circuit Board Assembly (also called PCB or PWB)
CL	Constant Level: audio output to connect with an external amplifier
CLUT	Colour Look-Up Table
COLUMBUS	COLour LUMinance Baseband Universal Subsystem. IC performing noise reduction and 2D/3D comb filtering
ComPair	Computer aided rePair. A tool for diagnosing a TV through a PC controlled interface
CSM	Customer Service Mode
CVBS	Composite Video and Blanking Signal; A single video signal that contains luminance, colour, and timing information
CVBS-EXT	CVBS signal from external source (VCR, VCD, etc.)
CVBS-INT	CVBS signal from internal Tuner
CVBS-MON	CVBS monitor signal
CVBS-TER-OUT	CVBS TERrestrial OUTput signal
DAC	Digital to Analogue Converter
DBE	Dynamic Bass Enhancement: extra low frequency amplification
DFU	Directions For Use: Owner's manual
DNR	Dynamic Noise Reduction / Digital Noise Reduction; Noise reduction feature of the set
DRAM	Dynamic RAM; dynamically refreshed RAM
DSP	Digital Signal Processing
DST	Dealer Service Tool; Special remote control designed for dealers to enter e.g. service mode (a DST-emulator is available in ComPair)
DTS	Digital Theatre System; A multi-channel surround sound format, similar to Dolby Digital
DVD	Digital Versatile Disc
EEPROM	Electrically Erasable and Programmable Read Only Memory
EPLD	Erasable Programmable Logic Device
EPG	Electronic Program Guide: system used by broadcasters to transmit TV guide information (= NexTView)
EU	Europe
EXT	EXTernal (source), entering the set by SCART or by cinches (jacks)
FBL	Fast BLanking; DC signal accompanying RGB signals. To blank the video signal when it is returning from the right side of the screen to the left side. The video level is brought down below the black video level
FBL-SC1-IN	Fast blanking signal for SCART1 in
FBL-SC2-IN	Fast blanking signal for SCART2 in
FBL-TXT	Fast Blanking Teletext
FM	Field Memory; A memory chip that is capable of storing one or more TV picture fields / Frequency Modulation; A technique that sends data as frequency variations of a carrier signal
FMR	Radio receiver that can receive the FM Band 87.5 - 108 MHz
FRC	Frame Rate Converter
FRONT-C	Front input chrominance (SVHS)
FRONT-DETECT	Control line for detection of headphone insertion, Service Mode jumper, power failure detection
FRONT-Y_CVBS	Front input luminance or CVBS (SVHS)
G-SC1-IN	Green SCART1/EXT1 in
G-SC2-IN	Green SCART2/EXT2 in
G-TXT	Green teletext
H	H_sync to the module
HA	Horizontal Acquisition; horizontal sync pulse
HD	High Definition
HP	HeadPhone
I	Monochrome TV system. Sound carrier distance is 6.0 MHz. VHF- and UHF-band
I^2C	Integrated IC bus
I^2S	Integrated IC Sound bus
IC	Integrated Circuit
IF	Intermediate Frequency
Interlaced	Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in "pairs", causing line flicker.
IR	Infra Red
IRQ	Interrupt ReQuest
Last Status	The settings last chosen by the customer and read and stored in RAM or in the NVM. They are called at start-up of the set to configure it according to the customer's preferences
LATAM	LATin AMerica
LC04	Philips chassis name for LCD TV 2004 project
LCD	Liquid Crystal Display
LED	Light Emitting Diode; A semiconductor diode that emits light when a current is passed through it
LINE-DRIVE	Horizontal (line) deflection drive signal (for the Line transistor)
L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I
LS	LoudSpeaker
LVDS	Low Voltage Differential Signalling, data transmission system for high speed and low EMI communication.
M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz. M= 525 lines @ 60 Hz, N= 625 lines @ 50 Hz
MOSFET	Metal Oxide Semiconductor Field Effect Transistor
MPEG	Motion Pictures Experts Group. An ISO/IEC body that has given its name to an image compressing scheme for moving video
MSP	Multi-standard Sound Processor: ITT sound decoder
MUTE	MUTE Line
NC	Not Connected
NICAM	Near Instantaneously Companded Audio Multiplexing; This is a digital sound system, mainly used in Europe
NTSC	National Television Standard Committee. Colour system used mainly in North America and Japan. Colour carrier NTSC M/N = 3.579545 MHz, NTSC 4.43 = 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)
NVM	Non Volatile Memory; IC containing data such as alignment values, preset stations
O/C	Open Circuit
ON/OFF LED	On/Off control signal for the LED
OSD	On Screen Display
PAL	Phase Alternating Line. Colour system used mainly in Western Europe (colour carrier = 4.433619 MHz) and South America (colour carrier PAL M = 3.575612 MHz and PAL N = 3.582056 MHz)
PC	Personal Computer
PCB	Printed Circuit Board (or PWB)
PIG	Picture In Graphic
PIP	Picture In Picture
PLL	Phase Locked Loop. Used, for example, in FST tuning systems. The customer can directly provide the desired frequency
Progressive Scan	Scan mode where all scan lines are displayed in one frame at the same time, creating a double vertical resolution.
PWB	Printed Wiring Board (also called PCB or CBA)
RAM	Random Access Memory
RC	Remote Control transmitter
RC5 or 6	Remote Control system 5 or 6, the signal from the remote control receiver
RGB	Red, Green, and Blue colour space; The primary colour signals for TV. By mixing levels of R, G, and B, all colours (Y/C) are reproduced
RGBHV	Red, Green, Blue, Horizontal sync, and Vertical sync
ROM	Read Only Memory
SAM	Service Alignment Mode
SC	SandCastle: two-level pulse derived from sync signals
SC-IN	SCART in
SC-OUT	SCART out
S/C	Short Circuit
SCART	Syndicat des Constructeurs d'Appareils Radiorécepteurs et

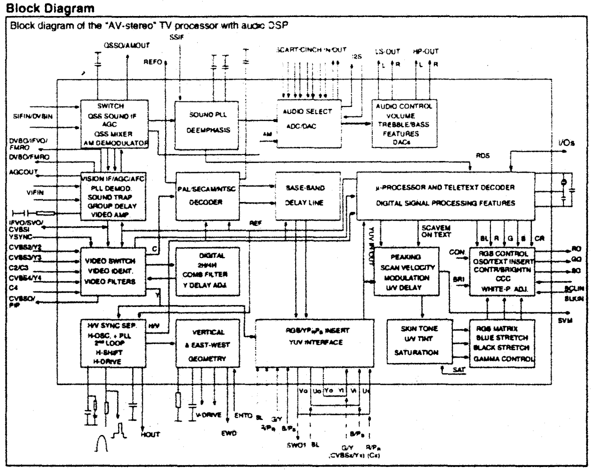
	Téléviseurs; This is a 21-pin connector used in EU, that carries various audio, video, and control signals (it is also called Péritel connector)
SCL	Serial CLock Signal on I^{2}C bus
SD	Standard Definition
SDA	Serial DAta Signal on I^{2}C bus
SDRAM	Synchronous DRAM
SECAM	SÉquence Couleur Avec Mémoire; Colour system mainly used in France and East Europe. The chroma is FM modulated and the R-Y and B-Y signals are transmitted line sequentially. Colour carriers= 4.406250 MHz and 4.250000 MHz
SIF	Sound Intermediate Frequency
SMPS	Switched Mode Power Supply
SND	SouND
SNDL-SC1-IN	Sound left SCART1 in
SNDL-SC1-OUT	Sound left SCART1 out
SNDL-SC2-IN	Sound left SCART2 in
SNDL-SC2-OUT	Sound left SCART2 out
SNDR-SC1-IN	Sound right SCART1 in
SNDR-SC1-OUT	Sound right SCART1 out
SNDR-SC2-IN	Sound right SCART2 out
SNDR-SC2-OUT	Sound right SCART2 out
SOPS	Self Oscillating Power Supply
S/PDIF	Sony Philips Digital InterFace; This is a consumer interface used to transfer digital audio
SRAM	Static RAM
STBY	STandBY
SVHS	Super Video Home System
SW	Software or Subwoofer or Switch
THD	Total Harmonic Distortion
TXT	Teletext; TXT is a digital addition to analogue TV signals that contain textual and graphical information (25 rows x 40 columns). The information is transmitted within the first 25 lines during the Vertical Blank Interval (VBI)
µP	Microprocessor
VA	Vertical Acquisition
VL	Variable Level out: processed audio output towards external amplifier
VCR	Video Cassette Recorder
VGA	Video Graphics Array; 640x480 (4:3)
WD	Watch Dog
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
XTAL	Quartz crystal
Y	Luminance signal
Y/C	Y consists of luminance signal, blanking level and sync; C consists of chroma (colour) signal
YPbPr	This is a scaled version of the YUV colour space. Y= Luminance, Pb/Pr= Colour difference signals B-Y and R-Y, other amplitudes w.r.t. to YUV
YUV	Colour space used by the NTSC and PAL video systems. Y is the luminance and U/V are the colour difference signals

9.11 IC Data Sheets

This section shows the internal block diagrams and pin layouts of ICs that are drawn as "black boxes" in the electrical diagrams (with the exception of "memory" and "logic" ICs).

9.11.1 Diagram B2, Type TDA15021H (IC7217, Hercules)

Block Diagram


Block diagram of the "AV-stereo" TV processor with audio DSP
SSIF
QSSO/AMOUT
REFO
SCART-CINCH IN/OUT
I2S
LS-OUT
HP-OUT
L
R
SWITCH
QSS SOUND IF
AGC
QSS MIXER
AM DEMODULATOR
SOUND PLL
DEEMPHASIS
AUDIO SELECT
ADC/DAC
AM
AUDIO CONTROL
VOLUME
TREBBLE/BASS
FEATURES
DACs
SIFIN/DVBIN
DVBO/IFVO/FMRO
DVBO/FMRO
AGCOUT
VIFIN
I/Os
RDS
VISION IF/AGC/AFC
PLL DEMOD.
SOUND TRAP
GROUP DELAY
VIDEO AMP
PAL/SECAM/NTSC
DECODER
BASE-BAND
DELAY LINE
µ-PROCESSOR AND TELETEXT DECODER
DIGITAL SIGNAL PROCESSING FEATURES
IFVO/SVO/CVBSI
YSYNC
REF
YUV IN/OUT
SCAVEM
ON TEXT
BL
R
G
B
CR
CVBS2/Y2
CVBS3/Y3
C2/C3
CVBS4/Y4
C4
CVBSO/PIP
C
VIDEO SWITCH
VIDEO IDENT.
VIDEO FILTERS
DIGITAL
2H/4H
COMB FILTER
Y DELAY ADJ.
Y
PEAKING
SCAN VELOCITY
MODULATION
U/V DELAY
CON.
BRI
RGB CONTROL
OSD/TEXT INSERT
CONTR/BRIGHTN
CCC
WHITE-P. ADJ.
RO
GO
BO
BCLIN
BLKIN
SVM
H/V SYNC SEP.
H-OSC. + PLL
2nd LOOP
H-SHIFT
H-DRIVE
H/V
VERTICAL
& EAST-WEST
GEOMETRY
RGB/YPBPR INSERT
YUV INTERFACE
SKIN TONE
U/V TINT
SATURATION
RGB MATRIX
BLUE STRETCH
BLACK STRETCH
GAMMA CONTROL
SAT
Vo
Uo
Yo
Yi
Vi
Ui
HOUT
V-DRIVE
EWD
EHTO
BL
G/Y
R/PR
B/PB
SWO1
BL
G/Y
(CVBSx/Yx)
R/PR
(Cx)

Pin Configuration

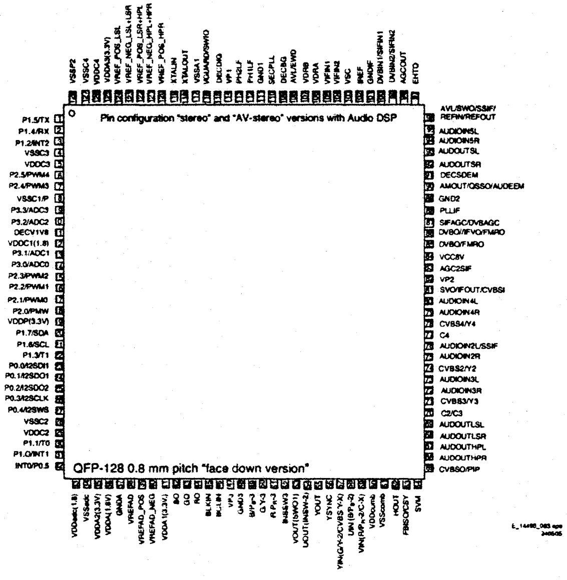

Pin configuration "stereo" and "AV-stereo" versions with Audio DSP
QFP-128 0.8 mm pitch "face down version"
P1.5/TX
P1.4/RX
P1.2/INT2
VSSC3
VDDC3
P2.5/PWM4
P2.4/PWM3
VSSC1/P
P3.3/ADC3
P3.2/ADC2
DECV1V8
VDDC1(1.8)
P3.1/ADC1
P3.0/ADC0
P2.3/PWM2
P2.2/PWM1
P2.1/PWM0
P2.0/PMW
VDDP(3.3V)
P1.7/SDA
P1.6/SCL
P1.3/T1
P0.0/I2SDI1
P0.1/I2SDO1
P0.2/I2SDO2
P0.3/I2SCLK
P0.4/I2SWS
VSSC2
VDDC2
P1.1/T0
P1.0/INT1
INT0/P0.5
VDDadc(1.8)
VSSadc
VDDA2(3.3V)
VDDA(1.8V)
GNDA
VREFAD
VREFAD_POS
VREFAD_NEG
VDDA1(3.3V)
BO
GO
RO
BLKIN
BCLIN
VP3
GND3
B/PB-3
G/Y-3
R/PR-3
INSSW3
VOUT(SWO1)
UOUT(INSW-2)
YOUT
YSYNC
YIN(G/Y-2/CVBS-Y-X)
UIN(B/PB-2)
VIN(R/PR-2/C-X)
VDDcomb
VSScomb
HOUT
FBISO/CSY
SVM
CVBSO/PIP
AUDOUTHPR
AUDOUTHPL
AUDOUTLSR
AUDOUTLSL
C2/C3
CVBS3/Y3
AUDIOIN3R
AUDIOIN3L
CVBS2/Y2
AUDIOIN2R
AUDIOIN2L/SSIF
C4
CVBS4/Y4
AUDIOIN4R
AUDIOIN4L
SVO/IFOUT/CVBSI
VP2
AGC2SIF
VCC8V
DVBO/FMRO
DVBO/IFVO/FMRO
SIFAGC/DVBAGC
PLLIF
GND2
AMOUT/QSSO/AUDEEM
DECSDEM
AUDOUTSR
AUDOUTSL
AUDIOIN5R
AUDIOIN5L
AVL/SWO/SSIF/REFIN/REFOUT
EHTO
AGCOUT
DVBIN2/SIFIN2
DVBIN1/SIFIN1
GNDIF
IREF
VSC
VIFIN2
VIFIN1
VDRA
VDRB
AVL/EWD
DECBG
SECPLL
GND1
PH1LF
PH2LF
VP1
DECDIG
VGUARD/SWIO
VSSA1
XTALOUT
XTALIN
VREF_POS_HPR
VREF_NEG_HPL
VREF_POS_LSR
VREF_NEG_LSL
VREF_POS_LSL
VDDA3(3.3V)
VDDC4
VSSC4
VSSP2
E_14480_083.eps
240505

Figure 9-8 Internal block diagram and pin configuration

9.11.2 Diagram B19, Type T6TU5XB (IC7M00, Columbus)

Figure 1 Package outline (top view)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
A	WEB/ DAVB	UVA0 /Di0	UVA2 /Di2	UVA4 /Di4	UVA6 /Di6	UVA8 /Di8	SEL656	TST1	YA2	YA4	YA6	YA8	VA	HREF	SDA	A
B	YB8	VSS	UVA1 /Di1	UVA3 /Di3	UVA5 /Di5	UVA7 /Di7	YA0 /Di9	BISTEN	YA1	YA3	YA5	YA7	WEA/ DAVA	VSS	SCL	B
C	YB7	YB6	VSS	VDDS	VSS	VSS	VDDC	VDDC	VSS	VSS	VDDC	VDDS	VSS	SNDA	SNRST	C
D	YB5	YB4	VDDC	N.C.									VSS	SNCL	TCK	D
E	YB3	YB2	VSS										VDDC	TMS	TDO	E
F	TST2	YB1	VSS										VSS	TRST	TDI	F
G	CLKASB	YB0 /Do9	VDDS										VDDS	A0ICC	RESET	G
H	CLKASA	UVB8/ Do8	TST3										VDDC	CLK EXT	CLKSEL	H
J	UVB7 /Do7	UVB6/ Do6	VSS										VSS	CLK	WEN	J
K	UVB5 /Do5	UVB4/ Do4	VDDC										VSS	CASN	RASN	K
L	UVB3 /Do3	UVB2 /Do2	VSS										VDDS	DQM	DQ16	L
M	UVB1 /Do1	UVB0 /Do0	VDDS										VSS	DQ14	DQ15	M
N	AVD	N.C.	VDDS	VSS	VSS	VDDC	VSS	VDDS	VDDC	VSS	VDDS	VSS	VSS	VDDS	DQ13	N
P	AVS	VSS	A7	A9	A2	A0	A11	DQ7	DQ6	DQ4	DQ3	DQ1	VDDS	VSS	DQ12	P
R	A4	A5	A6	A8	A3	A1	A10	DQ8	VSS	DQ5	VSS	DQ2	DQ9	DQ10	DQ11	R
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

COLUMBUS
TOP-VIEW

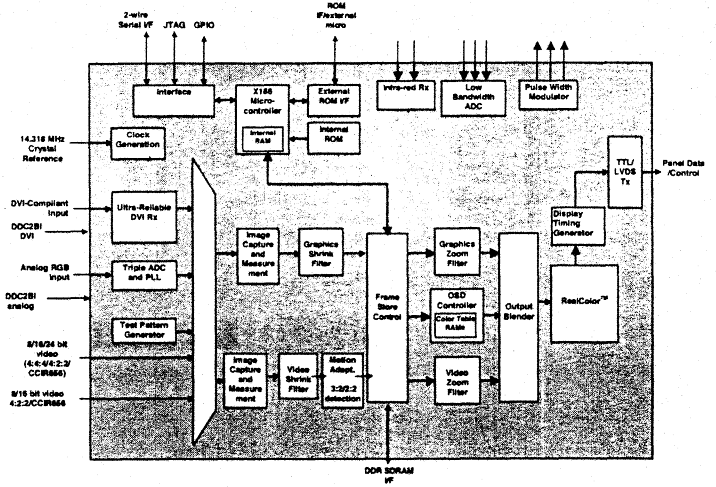
PPA Version 2.7

E_14600_059.eps
200804

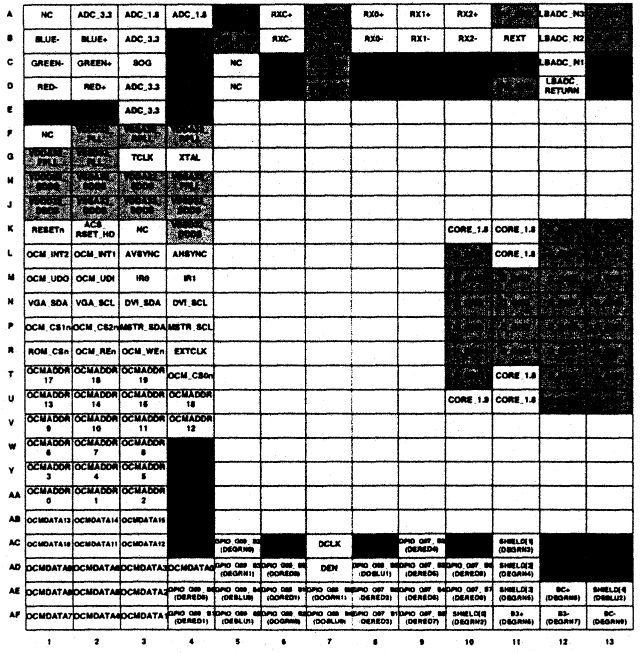
Figure 9-9 Pin configuration

9.11.3 Diagram B7+B8+B9, Type GM1501 (IC7401, Genesis)

Block Diagram


2-wire
Serial I/F
JTAG
GPIO
Parallel
ROM
I/F/external
micro
Interface
X186
Micro-
controller
Internal
RAM
External
ROM I/F
Internal
ROM
Infra-red Rx
Low
Bandwidth
ADC
Pulse Width
Modulator
14.318 MHz
Crystal
Reference
Clock
Generation
DVI-Compliant
Input
DDC2BI
DVI
Ultra-Reliable
DVI Rx
Analog RGB
Input
Triple ADC
and PLL
DDC2BI
analog
Test Pattern
Generator
8/16/24 bit
video
(4:4:4/4:2:2/
CCIR656)
8/16 bit video
4:2:2/CCIR656
Image
Capture
and
Measure
ment
Graphics
Shrink
Filter
Image
Capture
and
Measure
ment
Video
Shrink
Filter
Motion
Adapt.
3:2/2:2
detection
Frame
Store
Control
Graphics
Zoom
Filter
OSD
Controller
Color Table
RAMs
Video
Zoom
Filter
Output
Blender
RealColor™
Display
Timing
Generator
TTL/
LVDS
Tx
Panel Data
/Control
DDR SDRAM
I/F

Pin Configuration



	1	2	3	4	5	6	7	8	9	10	11	12	13
A	NC	ADC_3.3	ADC_1.8	ADC_1.8		RXC+		RX0+	RX1+	RX2+		LBADC_N3	
B	BLUE-	BLUE+	ADC_3.3			RXC-		RX0-	RX1-	RX2-	REXT	LBADC_N2	
C	GREEN-	GREEN+	SOG		NC							LBADC_N1	
D	RED-	RED+	ADC_3.3		NC							LBADC_ RETURN	
E			ADC_3.3										
F	NC	[illegible]	[illegible]	[illegible]									
G	[illegible]	[illegible]	TCLK	XTAL									
H	[illegible]	[illegible]	[illegible]	[illegible]									
J	[illegible]	[illegible]	[illegible]	[illegible]									
K	RESETn	ACS_ RSET_HD	NC	[illegible]						CORE_1.8	CORE_1.8		
L	OCM_INT2	OCM_INT1	AVSYNC	AHSYNC							CORE_1.8		
M	OCM_UDO	OCM_UDI	IR0	IR1									
N	VGA_SDA	VGA_SCL	DVI_SDA	DVI_SCL									
P	OCM_CS1n	OCM_CS2n	MSTR_SDA	MSTR_SCL									
R	ROM_CSn	OCM_REn	OCM_WEn	EXTCLK									
T	OCMADDR 17	OCMADDR 18	OCMADDR 19	OCM_CS0n							CORE_1.8		
U	OCMADDR 13	OCMADDR 14	OCMADDR 15	OCMADDR 16						CORE_1.8	CORE_1.8		
V	OCMADDR 9	OCMADDR 10	OCMADDR 11	OCMADDR 12									
W	OCMADDR 6	OCMADDR 7	OCMADDR 8										
Y	OCMADDR 3	OCMADDR 4	OCMADDR 5										
AA	OCMADDR 0	OCMADDR 1	OCMADDR 2										
AB	OCMDATA13	OCMDATA14	OCMDATA15										
AC	OCMDATA10	OCMDATA11	OCMDATA12		PIO_G09_B (DEGRN0)		DCLK		PIO_G07_B (DERED4)		SHIELD[1] (DEGRN3)		
AD	OCMDATA9	OCMDATA6	OCMDATA3	OCMDATA0	PIO_G09_B (DEGRN1)	PIO_G08_B (DORED0)	DEN	PIO_G08_B (DOBLU1)	PIO_G07_B (DERED6)	PIO_G07_B (DERED8)	SHIELD[2] (DEGRN4)		
AE	OCMDATA8	OCMDATA5	OCMDATA2	PIO_G09_B (DERED0)	PIO_G09_B (DEBLU0)	PIO_G08_B (DORED1)	PIO_G08_B (DOGRN1)	PIO_G07_B DERED2)	PIO_G07_B (DERED5)	PIO_G07_B (DERED9)	SHIELD[3] (DEGRN5)	BC+ (DEGRN8)	SHIELD[4] (DEBLU2)
AF	OCMDATA7	OCMDATA4	OCMDATA1	PIO_G09_B (DERED1)	PIO_G09_B (DEBLU1)	PIO_G08_B (DOGRN0)	PIO_G08_B (DOBLU0)	PIO_G07_B DERED3)	PIO_G07_B (DERED7)	SHIELD[0] (DEGRN2)	B3+ (DEGRN6)	B3- (DEGRN7)	BC- (DEGRN9)

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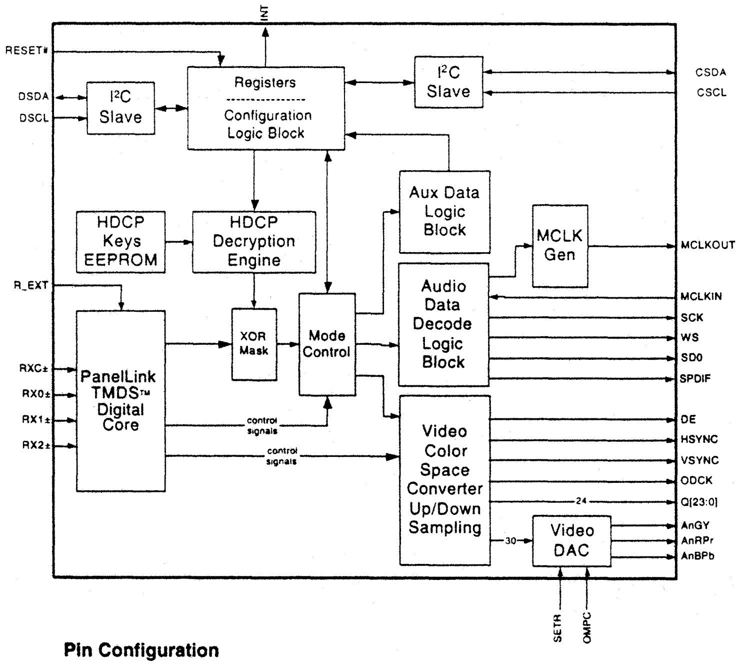
241204

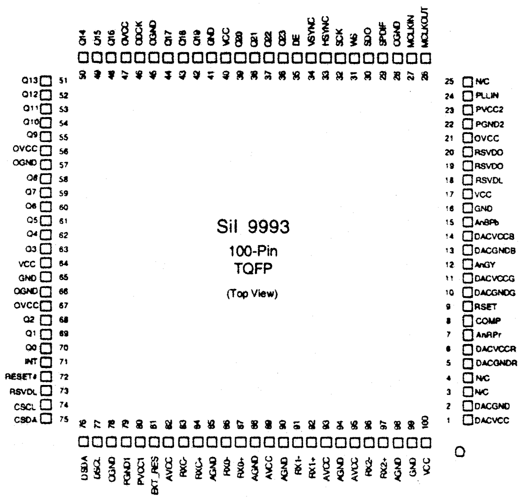
Figure 9-10 Internal block diagram and pin configuration

9.11.4 Diagram B12, Type S9993CT (IC7D03, HDMI Panellink), Reserved

Block Diagram



Pin Configuration



E_14620_149.eps
170305

Figure 9-11 Internal block diagram and pin configuration

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10. Spare Parts List

Set Level

Various

1004	8204 000 78181	PDP S42SD-YD07
1004▲	9322 224 88682	PDP PDP42V7A062
1012	3104 328 39571	LED panel LC04SD2
8102	3104 311 03601	Cable 7p/400/7p
8102	3104 311 07241	Cable 7P/1000/7P
8103	3104 311 06511	Cable 10p/280/10p
8103	3104 311 07391	Cable 10P/220/10P
8120▲	3104 311 07421	Cable 6P/680/6P
8146	3104 311 08621	Cable 11P/220/11P
8150	3104 311 08831	Cable 31P/300/31P
8150	3104 311 10493	Cable 31P/220/31P
8152▲	3104 311 09921	Cable 9P/680/9P
8900▲	3104 311 07911	Cable ring/180/ring

Set Level

Various

1014	3104 328 39561	Side control LC04SD2
1116	3104 328 40501	Side I/O Assy LC04SD2
8101	3104 311 10751	Cable 3P/1K7/3P
8136	3104 311 10733	Cable 11P/1K/11P
8735	3104 311 10601	Cable 2P3/1400/POSI
8736	3104 311 10591	Cable 2P3/1000/POSI

~

5213	2441 257 30020	Loudspeaker 8Ω 10W
5214	2441 257 30020	Loudspeaker 8Ω 10W

Power Supply Unit [A]

Various

1002	4822 267 10618	Connector 7p
1004	2422 086 00676	Fuse 2A T 250V
1082	2422 086 00677	Fuse 2.5A T 250V
1083	2422 086 00677	Fuse 2.5A T 250V
1084	2422 086 10849	Fuse 1A F 250V
1110	2422 086 00678	Fuse 5A T 250V
1200	2422 086 00676	Fuse 2A T 250V
1260	4822 252 51186	Fuse 2A
1400	4822 070 36302	Fuse 6.3A
1402	4822 252 60151	Surge protect
1450	4822 280 10382	SDT-SS-109DM
1460	4822 280 10382	SDT-SS-109DM
1M03	2422 025 10771	Connector 10p m
1M05	2422 025 16374	Connector 2p m
1M10	2422 025 09406	Connector 4p m
1M46	2422 025 10655	Connector 11p m

⊣⊢

2000	2252 811 95017	470pF 10% 250V
2001	2222 338 22474	470nF 20% 275V
2005	2238 867 18101	100pF 1% 50V 0603
2006	2020 552 96618	1nF 10% 50V 0402
2007	2238 586 59812	100nF 20% 50V 0603
2008	5322 126 11583	10nF 10% 50V 0603
2010	5322 126 11583	10nF 10% 50V 0603
2011	2222 375 24153	15nF 5% 1kV
2012	4822 126 11254	330pF 10% 2kV
2013	4822 126 11254	330pF 10% 2kV
2014	4822 126 13862	1.5nF 10% 2kV
2015	5322 126 11583	10nF 10% 50V 0603
2017	2222 375 24153	15nF 5% 1kV
2018	2238 867 18101	100pF 1% 50V 0603
2019	2252 811 95017	470pF 10% 250V
2020	2020 024 90737	3300µF 20% 100V
2021	2020 024 90737	3300µF 20% 100V
2022	2020 021 91354	1000µF 20% 50V
2023	2222 580 15649	100nF 10% 50V 0805
2024	3198 035 03320	3.3nF 5% 50V 0402
2025	4822 124 12084	1µF 20% 50V
2026	2020 552 96623	2.2nF 10% 50V 0402
2027	2020 552 96631	15nF 10% 16V 0402
2028	2238 930 11541	220pF 5% 200V
2029	2238 930 11541	220pF 5% 200V
2030	2238 586 59812	100nF 20% 50V 0603
2031	2020 552 96628	10nF 10% 16V 0402
2032	2238 586 15641	22nF 10% 50V 0603
2033	2238 586 59812	100nF 20% 50V 0603
2034	4822 126 14525	47pF 5% 1kV
2035	2020 552 96618	1nF 10% 50V 0402
2036	2238 586 15641	22nF 10% 50V 0603
2037	4822 126 14525	47pF 5% 1kV
2038	2020 552 96618	1nF 10% 50V 0402
2039	2020 552 96623	2.2nF 10% 50V 0402
2040	3198 034 02790	47pF 1% 50V 0402
2041	2238 869 15101	100pF 5% 50V 0402
2042	3198 035 03310	330pF 5% 50V 0402
2043	4822 124 12084	1µF 20% 50V
2044	2238 930 11541	220pF 5% 200V
2045	2238 930 11541	220pF 5% 200V
2046	2252 568 08305	33pF 5% 500V
2047	2238 586 59812	100nF 20% 50V 0603
2048	2020 552 96683	220nF 10% 50V
2049	2238 867 18101	100pF 1% 50V 0603
2050	2238 586 15641	22nF 10% 50V 0603
2051	4822 122 33177	10nF 20% 50V
2052	4822 124 12056	1000µF 20% 35V
2053	2022 031 00308	22µF 20% 35V
2054	2020 552 00216	220pF 5% 50V 0402
2055	2020 552 96621	1.5nF 10% 50V 0402
2056	2020 552 00216	220pF 5% 50V 0402
2057	2020 552 96621	1.5nF 10% 50V 0402
2058	4822 124 41828	1µF 20% 250V
2059	2238 586 59812	100nF 20% 50V 0603
2060	2020 552 96683	220nF 10% 50V
2061	2238 586 59812	100nF 20% 50V 0603
2070	2020 552 96618	1nF 10% 50V 0402
2071	2020 552 96618	1nF 10% 50V 0402
2090	2020 021 91729	4.7µF 20% 35V
2112	2020 552 96618	1nF 10% 50V 0402
2113	4822 124 12379	220µF 25V
2114	2020 552 96683	220nF 10% 50V
2118	4822 126 13449	1nF 10% 2kV
2121	2020 024 90736	2200µF 20% 100V
2122	4822 121 51319	1µF 10% 63V
2123	3198 035 03320	3.3nF 5% 50V 0402
2126	2238 586 59812	100nF 20% 50V 0603
2133	4822 124 81151	22µF 50V
2203	2238 586 59812	100nF 20% 50V 0603
2205	2020 021 91729	4.7µF 20% 35V
2210	4822 124 80151	47µF 16V
2211	3198 035 04710	470pF 50V 0402
2212	2020 552 96326	220nF 10% 16V
2213	3198 035 03320	3.3nF 5% 50V 0402
2214	3198 035 03320	3.3nF 5% 50V 0402
2215	3198 035 04710	470pF 50V 0402
2218	2222 375 90141	3.3nF 1.6kV 5%
2222	2238 869 15101	100pF 5% 50V 0402
2223	2238 869 15101	100pF 5% 50V 0402
2225	2020 021 91551	2200µF 20% 25V
2226	2238 586 59812	100nF 20% 50V 0603
2227	2238 869 15101	100pF 5% 50V 0402
2229	2020 021 00036	470µF 20% 16V
2230	2020 021 00036	470µF 20% 16V
2231	4822 124 80151	47µF 16V
2232	2238 869 15101	100pF 5% 50V 0402
2234	2022 552 05679	1µF 10% 16V 0805
2236	4822 124 23002	10µF 16V
2237	4822 124 23002	10µF 16V
2263	2222 861 15272	2.7nF 5% 50V 0805
2264	4822 126 14583	470nF 10% 16V 0805
2265	3198 035 03310	330pF 5% 50V 0402
2266	2020 021 91729	4.7µF 20% 35V
2267	5322 122 32531	100pF 5% 50V
2268	2020 552 96683	220nF 10% 50V
2269	4822 123 14025	2200µF 20% 16V
2270	4822 124 40433	47µF 20% 25V
2273	2238 586 59812	100nF 20% 50V 0603
2274	2020 552 96628	10nF 10% 16V 0402
2290	5322 126 11583	10nF 10% 50V 0603
2291	3198 035 04710	470pF 50V 0402
2293	3198 035 04710	470pF 50V 0402
2295	3198 035 04710	470pF 50V 0402
2296	3198 035 04710	470pF 50V 0402
2304	2020 552 96618	1nF 10% 50V 0402
2305	2238 586 59812	100nF 20% 50V 0603
2306	2238 586 59812	100nF 20% 50V 0603
2322	2238 586 59812	100nF 20% 50V 0603
2324	2238 586 59812	100nF 20% 50V 0603
2350	4822 124 12095	100µF 20% 16V
2352	2238 586 59812	100nF 20% 50V 0603
2364	2238 586 59812	100nF 20% 50V 0603
2376	2238 586 59812	100nF 20% 50V 0603
2377	2238 586 59812	100nF 20% 50V 0603
2381	2238 586 59812	100nF 20% 50V 0603
2385	2020 552 96628	10nF 10% 16V 0402
2386	2020 552 96628	10nF 10% 16V 0402
2387	4822 124 12095	100µF 20% 16V
2388	2020 552 96628	10nF 10% 16V 0402
2397	4822 124 12095	100µF 20% 16V
2398	4822 124 23002	10µF 16V
2400	2222 338 22474	470nF 20% 275V
2401	2222 338 22474	470nF 20% 275V
2404	4822 126 14525	47pF 5% 1kV
2405	2252 811 95017	470pF 10% 250V
2406	4822 126 14525	47pF 5% 1kV
2407	2252 811 95017	470pF 10% 250V
2465	4822 124 12095	100µF 20% 16V
2502	2238 869 15101	100pF 5% 50V 0402
2503	2020 024 90708	47µF 400V 20%
2504	2020 552 96618	1nF 10% 50V 0402
2507	2238 869 15101	100pF 5% 50V 0402
2508	4822 124 12095	100µF 20% 16V
2509	2238 869 15101	100pF 5% 50V 0402
2510	2020 021 91506	1000µF 20% 16V
2511	2238 586 59812	100nF 20% 50V 0603
2512	2238 586 59812	100nF 20% 50V 0603
2513	2222 580 15649	100nF 10% 50V 0805
2532	4822 124 12095	100µF 20% 16V
2533	4822 124 12095	100µF 20% 16V
2534	2022 552 05679	1µF 10% 16V 0805
2540	4822 124 12095	100µF 20% 16V
2541	4822 124 12095	100µF 20% 16V
2542	2238 586 59812	100nF 20% 50V 0603
2600	4822 122 33799	1nF 10% 1kV
2601	4822 122 33799	1nF 10% 1kV
2602	2020 552 96623	2.2nF 10% 50V 0402
2603	2222 383 90136	1µF 5% 400V
2605	2222 383 90136	1µF 5% 400V
2608	2020 552 96618	1nF 10% 50V 0402
2610	4822 121 70584	1.8nF 5% 2kV
2611	4822 126 12263	220pF 10% 2kV
2612	2020 552 96618	1nF 10% 50V 0402
2614	2020 552 96623	2.2nF 10% 50V 0402
2616	4822 124 12415	220µF 20% 400V
2617	4822 124 12415	220µF 20% 400V
2640	3198 035 04710	470pF 50V 0402
2642	2020 552 96618	1nF 10% 50V 0402
2651	2020 552 96628	10nF 10% 16V 0402
2653	3198 035 06810	680pF 5% 50V 0402
2654	4822 124 80151	47µF 16V
2655	2022 552 05679	1µF 10% 16V 0805
2656	2222 580 15649	100nF 10% 50V 0805
2660	4822 126 13881	470pF 5% 50V
2661	2020 552 96618	1nF 10% 50V 0402
2662	4822 124 80061	1000µF 20% 25V
2663	4822 121 51319	1µF 10% 63V
2664	4822 124 40255	100µF 20% 63V
2665	4822 126 13881	470pF 5% 50V
2666	2020 552 96793	4.7nF 10% 50V 0402
2670	2238 586 59812	100nF 20% 50V 0603
2671	2238 586 59812	100nF 20% 50V 0603
2672	2222 580 15649	100nF 10% 50V 0805
2673	2020 558 90621	10nF 630V
2674	2020 558 90621	10nF 630V
2675	2020 558 90621	10nF 630V
2676	2020 558 90621	10nF 630V
2677	2020 552 96623	2.2nF 10% 50V 0402
2690	2020 552 96618	1nF 10% 50V 0402

-WW-

3001	4822 051 30471	47Ω 5% 0.062W
3002	4822 051 30471	47Ω 5% 0.062W
3003	4822 117 11297	100kΩ 5% 0.1W
3004	3198 031 01530	15kΩ 5% 0.01W 0402
3005	3198 031 02730	27kΩ 5% 0402
3006	4822 117 13606	10kΩ 5% 0.01W 0402
3007	3198 031 04720	4.7kΩ 5% 0402
3008	4822 051 30102	1kΩ 5% 0.062W
3009	4822 051 30102	1kΩ 5% 0.062W
3010	3198 031 01530	15kΩ 5% 0.01W 0402
3011	4822 051 30561	560Ω 5% 0.062W
3012	3198 031 04720	4.7kΩ 5% 0402
3013	4822 117 13606	10kΩ 5% 0.01W 0402
3014	4822 050 23309	33Ω 1% 0,6W
3015	4822 050 21009	10Ω 1% 0.6W
3016	4822 051 10102	1kΩ 2% 0.25W
3017	4822 050 23309	33Ω 1% 0,6W
3018	4822 050 21009	10Ω 1% 0.6W
3019	4822 051 10102	1kΩ 2% 0.25W
3020	3198 031 05630	56kΩ 5% 0402
3022	4822 051 30681	680Ω 5% 0.062W
3023	3198 031 04730	47Ω 5% 0402

3024	4822 117 12306	150kΩ 1% 0.1W
3025	2322 706 71802	1.8kΩ 5% 0402
3026	4822 051 20684	680kΩ 5% 0.1W
3027	3198 031 04730	47Ω 5% 0402
3028	2322 704 67502	7.5kΩ 1% 0.5W
3029	4822 051 30123	12kΩ 5% 0.1W
3030	3198 031 01830	18kΩ 5% 0.01W 0402
3031	2322 706 71003	10kΩ 5% 0402
3032	2322 706 71003	10kΩ 5% 0402
3033	2322 705 70184	180Ω 5% 0402
3034	4822 117 13596	220Ω 5% 0.01W 0402
3035	4822 051 20684	680kΩ 5% 0.1W
3036	2122 612 00068	NTC 1Ω 20% 6W
3037	4822 117 13606	10kΩ 5% 0.01W 0402
3038	4822 117 11297	100kΩ 5% 0.1W
3039	4822 051 30105	1MΩ 5% 0.062W
3040	4822 117 10837	100kΩ 1% 0.1W
3041	4822 117 13603	33kΩ 5% 0402
3042	4822 051 30471	47Ω 5% 0.062W
3043	3198 031 04720	4.7kΩ 5% 0402
3044	4822 051 30102	1kΩ 5% 0.062W
3045	4822 051 30102	1kΩ 5% 0.062W
3046	4822 053 20565	5.6MΩ 5% 0.25W
3047	3198 031 01540	150kΩ 5% 0402
3048	3198 031 04720	4.7kΩ 5% 0402
3049	3198 031 01230	12kΩ 5% 0402
3050	4822 052 10398	3.9Ω 5% 0,33W
3051	4822 051 20822	8.2kΩ 5% 0.1W
3052	4822 117 12306	150kΩ 1% 0.1W
3053	2322 662 93131	PTC 10Ω
3054	4822 117 13543	470Ω 5% 0402
3055	4822 117 10833	10kΩ 1% 0.1W
3056	4822 051 30331	330Ω 5% 0.062W
3057	4822 051 30101	100Ω 5% 0.062W
3058	4822 051 20105	1MΩ 5% 0.1W
3059	3198 031 05630	56kΩ 5% 0402
3060	4822 050 22204	220kΩ 1% 0.6W
3061	3198 031 01830	18kΩ 5% 0.01W 0402
3062	4822 117 13548	1kΩ 5% 0402
3063	4822 117 13548	1kΩ 5% 0402
3064	4822 117 13606	10kΩ 5% 0.01W 0402
3065	4822 117 13548	1kΩ 5% 0402
3066	4822 117 13606	10kΩ 5% 0.01W 0402
3067	3198 031 01530	15kΩ 5% 0.01W 0402
3068	4822 117 13606	10kΩ 5% 0.01W 0402
3069	4822 051 30471	47Ω 5% 0.062W
3070	4822 051 30103	10kΩ 5% 0.062W
3071	3198 031 04730	47Ω 5% 0402
3073	3198 031 01050	1MΩ 5% 0402
3074	3198 031 01530	15kΩ 5% 0.01W 0402
3075	4822 051 20105	1MΩ 5% 0.1W
3076	4822 117 11297	100kΩ 5% 0.1W
3077	4822 051 20105	1MΩ 5% 0.1W
3078	4822 117 11297	100kΩ 5% 0.1W
3079	4822 051 30681	680Ω 5% 0.062W
3080	4822 051 30681	680Ω 5% 0.062W
3081	3198 031 01520	1.2kΩ 5% 0.01W 0402
3082	3198 031 01520	1.2kΩ 5% 0.01W 0402
3083	2312 915 11002	1kΩ 1% 0.5W
3084	4822 117 13606	10kΩ 5% 0.01W 0402
3085	3198 031 04730	47Ω 5% 0402
3086	3198 031 04730	47Ω 5% 0402
3087	3198 031 04730	47Ω 5% 0402
3088	3198 031 04730	47Ω 5% 0402
3089	4822 117 13606	10kΩ 5% 0.01W 0402
3090	4822 117 13545	100Ω 1% 0402
3091	4822 051 30102	1kΩ 5% 0.062W
3092	4822 051 10102	1kΩ 2% 0.25W
3093	4822 117 13548	1kΩ 5% 0402
3094	4822 051 10102	1kΩ 2% 0.25W
3095	4822 117 13543	470Ω 5% 0402
3096	3198 031 05620	5.6kΩ 5% 0.01W 0402
3097	3198 031 08210	820Ω 5% 0.5W
3098	4822 117 13548	1kΩ 5% 0402
3100	2322 706 71002	1kΩ 1% 0402
3101	2322 706 71002	1kΩ 1% 0402
3102	2322 706 71002	1kΩ 1% 0402
3103	2322 706 71002	1kΩ 1% 0402
3104	2322 706 71002	1kΩ 1% 0402
3106	4822 117 12955	2.7kΩ 1% 0.1W 0805
3107	4822 117 12955	2.7kΩ 1% 0.1W 0805
3108	4822 117 12955	2.7kΩ 1% 0.1W 0805
3109	4822 117 12955	2.7kΩ 1% 0.1W 0805
3110	4822 117 13548	1kΩ 5% 0402
3112	4822 051 30102	1kΩ 5% 0.062W
3114	2322 705 70564	560kΩ 5% 0402
3115	3198 031 02240	220kΩ 5% 0.1W 0402
3116	4822 117 13548	1kΩ 5% 0402
3117	4822 117 13606	10kΩ 5% 0.01W 0402
3118	2122 118 06084	0.051Ω 5% 1W 2512
3120	3198 021 31820	1.8kΩ 5% 0.062W 0603
3121	3198 031 04730	47Ω 5% 0402
3123	4822 117 10965	18kΩ 1% 0.1W
3124	2322 704 67502	7.5kΩ 1% 0.5W
3125	2322 704 67502	7.5kΩ 1% 0.5W
3126	2322 706 72202	2.2kΩ 5% 0402
3128	4822 117 13603	33kΩ 5% 0402
3130	4822 051 30123	12kΩ 5% 0.1W
3131	2322 706 71003	10kΩ 5% 0402
3132	4822 117 13596	220Ω 5% 0.01W 0402
3133	4822 051 30101	100Ω 5% 0.062W
3134	4822 051 30681	680Ω 5% 0.062W
3135	3198 031 04730	47Ω 5% 0402
3136	3198 031 04730	47Ω 5% 0402
3143	4822 053 12472	4.7kΩ 5% 3W
3147	2322 706 71003	10kΩ 5% 0402
3149	4822 052 10478	4.7Ω 5% 0.33W
3150	3198 031 01050	1MΩ 5% 0402
3200	4822 051 20334	330kΩ 5% 0.1W
3202	4822 051 30479	47Ω 5% 0.062W
3203	4822 051 30101	100Ω 5% 0.062W
3204	4822 117 11297	100kΩ 5% 0.1W
3205	3198 031 01540	150kΩ 5% 0402
3206	4822 117 12955	2.7kΩ 1% 0.1W 0805
3207	4822 117 12955	2.7kΩ 1% 0.1W 0805
3208	4822 117 12955	2.7kΩ 1% 0.1W 0805
3209	4822 117 12955	2.7kΩ 1% 0.1W 0805
3210	2322 706 71002	1kΩ 1% 0402
3212	4822 051 30102	1kΩ 5% 0.062W
3213	4822 117 13603	33kΩ 5% 0402
3214	2322 705 70124	120kΩ 5% 0402
3215	2322 705 70274	270kΩ 5% 0402
3216	4822 117 13548	1kΩ 5% 0402
3217	4822 117 13606	10kΩ 5% 0.01W 0402
3218	2122 118 06084	0.051Ω 5% 1W 2512
3219	4822 117 13606	10kΩ 5% 0.01W 0402
3220	4822 050 23309	33Ω 1% 0,6W
3224	2322 706 71203	12kΩ 5% 0402
3225	2322 706 71003	10kΩ 5% 0402
3226	4822 117 13606	10kΩ 5% 0.01W 0402
3228	4822 051 30151	150Ω 5% 0.062W
3262	2322 706 71003	10kΩ 5% 0402
3263	2322 706 71003	10kΩ 5% 0402
3265	4822 117 13548	1kΩ 5% 0402
3268	4822 117 13548	1kΩ 5% 0402
3269	3198 031 02720	2.7kΩ 5% 0.01W 0402
3292	4822 051 30561	560Ω 5% 0.062W
3300	2322 706 72204	220kΩ 5% 0402
3301	2322 706 72204	220kΩ 5% 0402
3304	4822 051 30102	1kΩ 5% 0.062W
3306	2322 706 71003	10kΩ 5% 0402
3307	5322 117 13028	12kΩ 1% 0.063W 0603
3308	4822 051 30102	1kΩ 5% 0.062W
3311	4822 117 13579	220kΩ 1% 0.1W 0805
3312	4822 051 30102	1kΩ 5% 0.062W
3313	2322 704 67502	7.5kΩ 1% 0.5W
3317	2322 704 67502	7.5kΩ 1% 0.5W
3320	2322 706 71003	10kΩ 5% 0402
3321	4822 051 30102	1kΩ 5% 0.062W
3322	2322 706 73902	3.9kΩ 1% 0402
3323	2322 706 71003	10kΩ 5% 0402
3324	4822 051 30102	1kΩ 5% 0.062W
3325	4822 051 30471	47Ω 5% 0.062W
3326	3198 031 04720	4.7kΩ 5% 0402
3327	4822 117 13606	10kΩ 5% 0.01W 0402
3328	4822 051 30103	10kΩ 5% 0.062W
3332	2322 706 76803	68kΩ 5% 0402
3333	4822 051 30102	1kΩ 5% 0.062W
3334	2322 706 71003	10kΩ 5% 0402
3335	2322 706 71503	15kΩ 5% 1W 0402
3340	4822 051 30102	1kΩ 5% 0.062W
3341	4822 117 13606	10kΩ 5% 0.01W 0402
3342	4822 051 30103	10kΩ 5% 0.062W
3343	4822 051 30102	1kΩ 5% 0.062W
3344	4822 051 30102	1kΩ 5% 0.062W
3345	4822 117 13548	1kΩ 5% 0402
3346	4822 117 13548	1kΩ 5% 0402
3347	4822 051 30331	330Ω 5% 0.062W
3348	4822 051 30331	330Ω 5% 0.062W
3349	4822 051 30102	1kΩ 5% 0.062W
3350	4822 051 30472	4.7Ω 5% 0.062W
3351	4822 051 30103	10kΩ 5% 0.062W
3352	4822 051 30103	10kΩ 5% 0.062W
3353	4822 117 13606	10kΩ 5% 0.01W 0402
3354	3198 031 04720	4.7kΩ 5% 0402
3358	4822 051 30222	2.2kΩ 5% 0.062W
3359	3198 031 05620	5.6kΩ 5% 0.01W 0402
3360	3198 031 01220	1.2kΩ 5% 0.01W 0402
3361	3198 031 04720	4.7kΩ 5% 0402
3362	3198 031 02720	2.7kΩ 5% 0.01W 0402
3363	4822 051 30102	1kΩ 5% 0.062W
3364	4822 051 30272	2.7kΩ 5% 0.062W
3366	4822 117 13606	10kΩ 5% 0.01W 0402
3367	4822 051 30103	10kΩ 5% 0.062W
3369	3198 031 04720	4.7kΩ 5% 0402
3370	2322 675 20907	PTC 470Ω 50% 25V 0805
3373	3198 031 04720	4.7kΩ 5% 0402
3374	3198 031 04730	47Ω 5% 0402
3376	3198 031 04730	47Ω 5% 0402
3377	3198 031 04720	4.7kΩ 5% 0402
3378	4822 117 13606	10kΩ 5% 0.01W 0402
3380	3198 031 04730	47Ω 5% 0402
3381	3198 031 04730	47Ω 5% 0402
3383	4822 117 13606	10kΩ 5% 0.01W 0402
3384	4822 117 13606	10kΩ 5% 0.01W 0402
3386	4822 051 30101	100Ω 5% 0.062W
3388	4822 051 30102	1kΩ 5% 0.062W
3389	4822 051 30102	1kΩ 5% 0.062W
3390	4822 117 13548	1kΩ 5% 0402
3391	4822 117 13606	10kΩ 5% 0.01W 0402
3392	3198 031 04730	47Ω 5% 0402
3393	3198 031 04730	47Ω 5% 0402
3394	3198 031 04730	47Ω 5% 0402
3395	3198 031 01540	150kΩ 5% 0402
3397	3198 031 04730	47Ω 5% 0402
3398	3198 031 04730	47Ω 5% 0402
3399	3198 031 05620	5.6kΩ 5% 0.01W 0402
3400	2122 550 00158	VDR 1mA 612V
3401	4822 117 10118	1MΩ 5% 0.5W
3404	4822 116 83872	220Ω 5% 0.5W
3450	2322 662 93131	PTC 10Ω
3451	2322 662 93131	PTC 10Ω
3452	2122 612 00068	NTC 1Ω 20% 6W
3460	4822 117 13602	2.2kΩ 5% 0.01W 0402
3461	4822 117 13606	10kΩ 5% 0.01W 0402
3463	4822 117 13606	10kΩ 5% 0.01W 0402
3465	4822 117 13606	10kΩ 5% 0.01W 0402
3467	4822 117 13606	10kΩ 5% 0.01W 0402
3469	3198 031 04720	4.7kΩ 5% 0402
3470	4822 117 13606	10kΩ 5% 0.01W 0402
3471	4822 117 13548	1kΩ 5% 0402
3472	4822 117 13548	1kΩ 5% 0402
3501	4822 051 30102	1kΩ 5% 0.062W
3502	4822 051 30471	47Ω 5% 0.062W
3503	2322 706 74702	4.7kΩ 5% 0402
3504	2322 706 73303	33kΩ 5% 0402
3505	2322 706 74702	4.7kΩ 5% 0402
3506	2322 662 93131	PTC 10Ω
3507	4822 051 20684	680kΩ 5% 0.1W
3509	2312 915 11209	12Ω 1% 0.5W
3603	4822 051 20474	470kΩ 5% 0.1W
3604	4822 051 20474	470kΩ 5% 0.1W
3605	4822 051 20474	470kΩ 5% 0.1W
3606	4822 051 30101	100Ω 5% 0.062W
3607	4822 117 12891	220kΩ 1%
3608	2312 915 11209	12Ω 1% 0.5W
3609	4822 051 20474	470kΩ 5% 0.1W
3610	4822 050 23308	3.3Ω 1% 0.6W
3611	4822 050 21003	10kΩ 1% 0.6W
3613	4822 117 13606	10kΩ 5% 0.01W 0402
3614	2322 194 95001	0.27Ω 5% 2W
3615	2322 194 95001	0.27Ω 5% 2W
3616	3198 031 01230	12kΩ 5% 0402
3617	3198 031 04730	47Ω 5% 0402
3618	4822 117 13603	33kΩ 5% 0402
3619	3198 031 03320	3.3kΩ 5% 0402
3620	2322 194 95001	0.27Ω 5% 2W
3621	4822 050 22208	2.2Ω 1% 0,6W
3622	4822 050 22208	2.2Ω 1% 0,6W
3623	4822 117 13548	1kΩ 5% 0402
3639	4822 051 10102	1kΩ 2% 0.25W
3640	4822 051 30331	330Ω 5% 0.062W
3641	4822 051 20471	470Ω 5% 0.1W
3642	4822 117 11503	220Ω 1% 0.1W
3643	4822 117 11503	220Ω 1% 0.1W
3651	4822 117 13601	22kΩ 5% 0402
3652	3198 031 01050	1MΩ 5% 0402
3654	4822 117 13606	10kΩ 5% 0.01W 0402
3655	4822 117 13548	1kΩ 5% 0402
3656	3198 031 01820	1.8kΩ 5% 0.01W 0402
3659	4822 117 11503	220Ω 1% 0.1W
3660	4822 117 11504	270Ω 1% 0.1W
3661	4822 117 11504	270Ω 1% 0.1W
3663	4822 052 10108	1Ω 5% 0.33W
3664	2322 706 71204	120kΩ 5% 0402
3665	2322 705 70274	270kΩ 5% 0402
3666	4822 051 30101	100Ω 5% 0.062W
3668	4822 052 11102	1kΩ 5% 0.5W
3669	2322 706 71204	120kΩ 5% 0402
3671	2322 706 71003	10kΩ 5% 0402
3673	4822 052 11102	1kΩ 5% 0.5W
3675	2322 702 60158	1.5Ω
3676	2322 706 74702	4.7kΩ 5% 0402
3677	2322 706 74703	47kΩ 1% 0402
3678	3198 031 04730	47Ω 5% 0402
3679	4822 117 12306	150kΩ 1% 0.1W
3680	4822 117 13579	220kΩ 1% 0.1W 0805
3681	4822 117 13579	220kΩ 1% 0.1W 0805
3682	4822 117 13579	220kΩ 1% 0.1W 0805
3683	4822 051 20334	330kΩ 5% 0.1W
3684	4822 051 20334	330kΩ 5% 0.1W
3685	4822 051 20334	330kΩ 5% 0.1W

3686	4822 117 12971	15Ω 5% 0603 0.62W
3690	3198 031 03920	3.9kΩ 5% 0402
3691	3198 031 08220	8.2kΩ 5% 0.5W
3692	4822 117 13606	10kΩ 5% 0.01W 0402
3693	4822 117 13602	2.2kΩ 5% 0.01W 0402
3806	4822 117 13543	470Ω 5% 0402
3807	4822 117 13606	10kΩ 5% 0.01W 0402
3808	4822 117 13606	10kΩ 5% 0.01W 0402
3809	3198 031 02730	27kΩ 5% 0402
3811	4822 117 13545	100Ω 1% 0402
3999	4822 117 13548	1kΩ 5% 0402
9001	4822 051 20008	Jumper 0805
9020	4822 051 20008	Jumper 0805
9028	4822 117 13605	Jumper 0402

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5001	2422 531 02444	Transf. S13932-04Y
5002▲	3104 308 21022	Transf. BS42315-02
5004▲	3104 308 21022	Transf. BS42315-02
5005	3122 138 38901	Mains filter CU28D3
5121	3104 308 20771	Bridge coil BD21232-00
5220	3104 308 20911	Transf. BS29238-00
5225	2422 536 00672	4.7µH 20%
5229	2422 536 00826	220µH 10%
5290	3104 308 21171	Transf. BD15403-00
5291	4822 157 11737	22µH 10%
5292	4822 157 11737	22µH 10%
5293	4822 157 11737	22µH 10%
5401	3122 138 38901	Mains filter CU28D3
5402	3122 138 38901	Mains filter CU28D3
5500	2422 531 00102	Transf. BS16510-01 Y
5503	2422 535 94639	10µH 20%
5600	3104 308 20821	Coil BS42228-00 B
5601	4822 157 11411	Bead 80Ω at 100MHz
5612	4822 157 11411	Bead 80Ω at 100MHz
5660	4822 157 51192	220µH 10%

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6002	4822 130 11397	BAS316
6003	9340 548 71115	PDZ33B
6004	4822 130 11397	BAS316
6005	4822 130 11397	BAS316
6006	4822 130 11397	BAS316
6007	4822 130 11397	BAS316
6008	4822 130 11397	BAS316
6009	4822 130 11397	BAS316
6010	4822 130 11397	BAS316
6011	4822 130 11397	BAS316
6012	3198 020 55680	BZX384-C5V6
6018	4822 130 11397	BAS316
6019	4822 130 11397	BAS316
6021	4822 130 32961	BYV28-200
6023	4822 130 11397	BAS316
6027	4822 130 11397	BAS316
6028	4822 130 11397	BAS316
6029	4822 130 11416	PDZ6.8B
6031	3198 020 55680	BZX384-C5V6
6032	3198 020 55680	BZX384-C5V6
6033	9322 150 18685	BZX384-C47
6034	4822 130 11397	BAS316
6035	4822 130 11397	BAS316
6042	9322 150 18685	BZX384-C47
6044	9322 202 88687	STTH2003CFP
6045	4822 130 32961	BYV28-200
6050	4822 130 11152	UDZ18B
6054	9340 553 52115	BAS321
6055	9340 553 52115	BAS321
6061	4822 130 11152	UDZ18B
6062	4822 130 11152	UDZ18B
6075	9340 292 80135	BZG03-C270
6077	9340 292 80135	BZG03-C270
6086	4822 130 11397	BAS316
6111	9340 553 52115	BAS321
6112	9340 553 52115	BAS321
6113	4822 130 11397	BAS316
6114	4822 130 11416	PDZ6.8B
6117	4822 130 11152	UDZ18B
6120	9322 202 75687	BYW29FP-200
6123	4822 130 11397	BAS316
6133	4822 130 11397	BAS316
6142	9322 192 15668	SM S3J
6201	3198 020 55680	BZX384-C5V6
6202	4822 130 11397	BAS316
6204	3198 020 55680	BZX384-C5V6
6205	4822 130 11152	UDZ18B
6206	4822 130 11397	BAS316
6211	9322 202 55685	BYG22D
6213	4822 130 11397	BAS316
6216	4822 130 11152	UDZ18B
6225	9322 173 47687	STPS20L40CFP
6230	9322 155 79685	EC31QS04
6267	4822 130 82627	SB540
6269	9322 099 61685	BYG10J
6270	9322 099 61685	BYG10J
6291	4822 130 11572	STPS8H100F
6292	4822 130 11572	STPS8H100F
6312	4822 130 80622	BAT54
6313	4822 130 80622	BAT54
6321	4822 130 80622	BAT54
6322	4822 130 80622	BAT54
6325	4822 130 11416	PDZ6.8B
6333	4822 130 80622	BAT54
6334	4822 130 80622	BAT54
6335	4822 130 11397	BAS316
6340	4822 130 80622	BAT54
6341	4822 130 80622	BAT54
6344	4822 130 10838	UDZ3.3B
6347	4822 130 80622	BAT54
6362	4822 130 11397	BAS316
6364	4822 130 11397	BAS316
6365	4822 130 11397	BAS316
6366	4822 130 11397	BAS316
6367	4822 130 11397	BAS316
6375	4822 130 11397	BAS316
6376	4822 130 11397	BAS316
6378	4822 130 80622	BAT54
6460	4822 130 11397	BAS316
6461	4822 130 11397	BAS316
6470	4822 130 11397	BAS316
6471	4822 130 11397	BAS316
6501	9322 218 64673	BZT03C200
6502	9322 218 64673	BZT03C200
6503	9322 176 76668	RS1J
6504	9322 176 76668	RS1J
6505	9322 155 79685	EC31QS04
6506	9322 218 64673	BZT03C200
6507	9322 155 79685	EC31QS04
6508	9322 128 69685	S1D
6510	9322 099 61685	BYG10J
6511	9322 099 61685	BYG10J
6512	9322 099 61685	BYG10J
6513	9322 099 61685	BYG10J
6600	9322 177 84667	GBU8JL-7014
6601	9322 150 17685	BZX384-C39
6602	4822 130 11522	UDZ15B
6605	9322 192 15668	SM S3J
6606	9322 192 15668	SM S3J
6608	9322 128 70685	SMSS14
6609	9322 208 81685	BZG05C18
6611	3139 120 52021	BYV29X-500
6640	9322 128 70685	SMSS14
6641	4822 130 11397	BAS316
6642	9322 128 70685	SMSS14
6643	4822 130 11152	UDZ18B
6651	4822 130 80622	BAT54
6652	9322 128 70685	SMSS14
6653	4822 130 10837	UDZS8.2B
6654	4822 130 11397	BAS316
6660	9322 202 55685	BYG22D
6661	9322 202 55685	BYG22D
6663	9322 198 81685	SL04
6665	9322 198 81685	SL04
6666	4822 130 10837	UDZS8.2B

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7001	9322 108 21682	MC34067P
7002	9322 149 04682	TCET1102
7003	9322 149 04682	TCET1102
7004	9322 192 17685	P0102BL
7005	9322 192 18687	STP15NK50ZFP
7006	9322 192 18687	STP15NK50ZFP
7007	4822 130 41246	BC327-25
7008	4822 130 41246	BC327-25
7009	3198 010 42310	BC847BW
7010	9322 192 16685	TS2431AI
7011	9322 192 16685	TS2431AI
7012	3198 010 42310	BC847BW
7013	5322 130 63033	BCP56
7017	3198 010 42320	BC857BW
7018	3198 010 42310	BC847BW
7020	9335 671 30126	BC517
7021	9335 671 30126	BC517
7042	9340 308 50135	PMST5401
7050	9340 557 16127	PSMN035-150P
7052	9340 557 58118	PSMN063-150D
7058	3198 010 42310	BC847BW
7059	9340 308 60135	PMST5550
7090	3198 010 42320	BC857BW
7091	3198 010 42320	BC857BW
7092	3198 010 44350	BC807-25W
7093	4822 209 80591	LM317T
7110	9340 308 50135	PMST5401
7112	9352 673 56112	TEA1507p/N1
7117	9340 557 17118	PSMN035-150B
7120	9322 149 04682	TCET1102
7121	9322 192 16685	TS2431AI
7130	9322 192 16685	TS2431AI
7134	3198 010 42310	BC847BW
7200	9340 565 06215	BSH114
7202	9965 000 04199	BSN20
7212	9352 673 56112	TEA1507p/N1
7217	9340 557 18127	PSMN070-200P
7220	9322 149 04682	TCET1102
7227	9322 192 16685	TS2431AI
7230	9322 205 64687	L4940P85
7260	9322 166 31682	L4973V3.3
7304	9322 192 16685	TS2431AI
7308	9322 213 35668	LM339P
7326	3198 010 42310	BC847BW
7327	3198 010 42310	BC847BW
7330	9322 213 35668	LM339P
7341	3198 010 42320	BC857BW
7348	3198 010 42310	BC847BW
7351	3198 010 42310	BC847BW
7352	3198 010 42310	BC847BW
7362	3198 010 42310	BC847BW
7363	3198 010 42310	BC847BW
7366	9322 213 19668	LM324APW
7375	3198 010 42310	BC847BW
7376	3198 010 42310	BC847BW
7391	3198 010 42320	BC857BW
7460	9340 219 30115	BC817-25W
7461	4822 130 60142	BC869
7465	3198 010 42320	BC857BW
7470	9340 219 30115	BC817-25W
7500	9322 037 99682	TNY256P
7501	9322 149 04682	TCET1102
7502	9322 192 16685	TS2431AI
7540	4822 209 17398	LD1117DT33
7601	3198 010 42310	BC847BW
7602	3198 010 42320	BC857BW
7608	5322 130 44593	BC369
7610	9322 223 21687	STW29NK50Z
7640	9965 000 04199	BSN20
7641	9340 219 30115	BC817-25W
7650	9322 130 69682	MC33368P
7654	3198 010 42320	BC857BW
7655	3198 010 42310	BC847BW
7656	3198 010 42310	BC847BW
7661	5322 209 90529	MC34063AD

Small Signal Board [B]

Various

1062	2422 549 00148	Socket 3p m
1062▲	2422 549 00151	Socket 3p m
1101	2422 025 18749	Connector 3p m
1102	3139 147 19801	Tuner UV1318S/A IH -3
1104	2422 549 44372	SAW 38.9MHz K3953L
1106	2422 549 44369	SAW 38.9MHz K9656L
1107	2422 025 18749	Connector 3p m
1202	2422 543 01414	Xtal 24.576MHz
1801	2422 543 01133	Xtal 14.32MHz 20pF
1F00	2422 033 00515	Socket DVI-I 29p f
1F01	2422 026 05703	Socket 1P f
1G01	2422 025 18959	Socket 21P f shd
1G02	2422 025 18959	Socket 21P f shd
1J00	2422 025 10771	Connector 10p m
1J01	2422 025 10655	Connector 11p m
1J04	2422 025 10769	Connector 9p m
1J07▲	2422 086 11081	Fuse T3A 125V
1J08▲	2422 086 11105	Fuse F630mA 50V
1K00	2422 025 08149	Connector 6p m
1K02	2422 025 10768	Connector 3p m
1K04	2422 025 10655	Connector 11p m
1N01	2422 025 17274	Connector 10p m
1N02	2422 025 18779	Connector 4P m
1N05	2722 171 08825	Xtal 14.31818Mhz 15pF
1P01	2422 549 45325	Bead 67Ω at 100MHz
1P02	2422 549 45325	Bead 67Ω at 100MHz
1P03	2422 549 45325	Bead 67Ω at 100MHz
1P04	2422 549 45325	Bead 67Ω at 100MHz
1P05	2422 549 45325	Bead 67Ω at 100MHz
1P07	2422 025 18427	Connector 31p f
8321	3104 311 08731	Cable POSI/100/POSI

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2101	4822 124 12095	100µF 20% 16V
2102	5322 126 11583	10nF 10% 50V 0603
2103	5322 126 11583	10nF 10% 50V 0603
2104	4822 122 33761	22pF 5% 50V

2105	4822 122 33761	22pF 5% 50V
2106	5322 126 11583	10nF 10% 50V 0603
2107	3198 024 44730	47nF 50V 0603
2109	5322 124 41945	22μF 20% 35V
2113	4822 124 12095	100μF 20% 16V
2203	4822 124 23002	10μF 16V
2206	2020 552 00035	2.2μF 6.3V 10% 0603
2207	2020 552 96718	220nF 10% 6.3V 0402
2208	4822 124 12084	1μF 20% 50V
2209	4822 124 23002	10μF 16V
2210	2020 552 96718	220nF 10% 6.3V 0402
2211	2020 552 96628	10nF 10% 16V 0402
2214	2020 552 96618	1nF 10% 50V 0402
2216	2020 552 96618	1nF 10% 50V 0402
2218	3198 035 71040	100nF 10% 16V 0402
2221	4822 124 12095	100μF 20% 16V
2223	2238 869 15101	100pF 5% 50V 0402
2225	2020 552 96618	1nF 10% 50V 0402
2226	3198 035 03320	3.3nF 5% 50V 0402
2227	2020 552 96618	1nF 10% 50V 0402
2228	3198 035 71040	100nF 10% 16V 0402
2230	3198 035 71040	100nF 10% 16V 0402
2231	2020 552 96718	220nF 10% 6.3V 0402
2232	3198 035 71040	100nF 10% 16V 0402
2233	4822 124 23002	10μF 16V
2234	2020 552 96718	220nF 10% 6.3V 0402
2235	2020 552 96718	220nF 10% 6.3V 0402
2236	4822 126 14076	220nF +80/-20% 25V
2237	2020 552 96718	220nF 10% 6.3V 0402
2238	2020 552 96718	220nF 10% 6.3V 0402
2239	3198 035 71040	100nF 10% 16V 0402
2240	2020 552 96718	220nF 10% 6.3V 0402
2241	2020 552 96718	220nF 10% 6.3V 0402
2242	3198 035 71040	100nF 10% 16V 0402
2243	4822 124 23002	10μF 16V
2244	3198 035 71040	100nF 10% 16V 0402
2245	3198 035 71040	100nF 10% 16V 0402
2246	3198 035 71040	100nF 10% 16V 0402
2250	2020 552 96618	1nF 10% 50V 0402
2251	2020 552 96656	10μF 20% 25V 1210
2252	3198 035 71040	100nF 10% 16V 0402
2253	3198 035 71040	100nF 10% 16V 0402
2254	3198 035 71040	100nF 10% 16V 0402
2255	3198 035 71040	100nF 10% 16V 0402
2256	4822 124 23002	10μF 16V
2257	3198 035 71040	100nF 10% 16V 0402
2258	2020 552 96637	10μF 10% 6.3V 0805
2259	3198 035 71040	100nF 10% 16V 0402
2260	2020 552 96637	10μF 10% 6.3V 0805
2262	4822 124 12082	10μF 20% 50V
2263	3198 035 26820	6.8nF 10% 16V 0402
2264	3198 017 44740	470nF 10V 0603
2265	3198 017 41050	1μF 10V 0603
2266	3198 035 71040	100nF 10% 16V 0402
2267	2020 552 96718	220nF 10% 6.3V 0402
2269	2020 012 00003	470μF 16V 20% SMD
2270	3198 035 71040	100nF 10% 16V 0402
2271	4822 124 12095	100μF 20% 16V
2272	3198 035 71040	100nF 10% 16V 0402
2273	2020 552 96718	220nF 10% 6.3V 0402
2274	3198 017 31540	150nF 10V 0603
2277	3198 035 71040	100nF 10% 16V 0402
2280	2020 552 00027	4.7μF 2% 6.3V 0603
2281	2020 552 00027	4.7μF 2% 6.3V 0603
2285▲	3198 035 71040	100nF 10% 16V 0402
2286	3198 035 71040	100nF 10% 16V 0402
2289▲	4822 051 30151	150Ω 5% 0.062W
2290▲	2222 240 59872	4.7μF 5% 10V 0805
2291▲	3198 035 71040	100nF 10% 16V 0402
2449	3198 035 71040	100nF 10% 16V 0402
2501	3198 035 71040	100nF 10% 16V 0402
2502	3198 035 71040	100nF 10% 16V 0402
2503	3198 035 71040	100nF 10% 16V 0402
2504	3198 035 71040	100nF 10% 16V 0402
2505	3198 035 71040	100nF 10% 16V 0402
2506	3198 035 03310	330pF 5% 50V 0402
2507	3198 035 04710	470pF 50V 0402
2508	2238 869 15829	82pF 5% 50V 0402
2509	2238 869 15829	82pF 5% 50V 0402
2603	2020 552 96834	1μF 20% 6.3V 0402
2604	3198 035 04710	470pF 50V 0402
2605	2020 552 96834	1μF 20% 6.3V 0402
2608	2020 552 96834	1μF 20% 6.3V 0402
2609	3198 035 04710	470pF 50V 0402
2610	2020 552 96834	1μF 20% 6.3V 0402
2611	4822 124 12095	100μF 20% 16V
2612	3198 017 41050	1μF 10V 0603
2614	3198 035 71040	100nF 10% 16V 0402
2615	2020 012 00003	470μF 16V 20% SMD
2618	2020 012 00003	470μF 16V 20% SMD
2704	4822 124 23002	10μF 16V
2706	4822 124 23002	10μF 16V
2709	4822 124 80151	47μF 16V
2710	2020 552 96656	10μF 20% 25V 1210
2711	2020 552 96656	10μF 20% 25V 1210
2713	2020 012 00028	470μF 20% 16V
2714	3198 035 02210	220pF 5% 50V 0402
2715	2020 552 96455	22nF 10% 16V 0402
2716	2020 012 00028	470μF 20% 16V
2730	2020 552 96656	10μF 20% 25V 1210
2731	2020 012 00003	470μF 16V 20% SMD
2733	3198 035 02210	220pF 5% 50V 0402
2734	2238 787 16641	22nF 10% 16V 0402
2735	3198 035 04710	470pF 50V 0402
2736	2022 031 00308	22μF 20% 35V
2737	2020 012 00003	470μF 16V 20% SMD
2738	4822 124 80151	47μF 16V
2739	4822 124 80151	47μF 16V
2741	4822 126 13879	220nF +80-20% 16V
2750	2020 552 00035	2.2μF 6.3V 10% 0603
2753	2020 012 00003	470μF 16V 20% SMD
2755	3198 035 14720	4.7nF 5% 25V 0402
2756	3198 035 04710	470pF 50V 0402
2757	2020 012 00003	470μF 16V 20% SMD
2758	2020 012 00003	470μF 16V 20% SMD
2761	2020 552 96671	1μF 10% 25V
2762	4822 124 23237	22μF 6.3V
2800	2020 021 91557	100μF 20% 16V
2801	3198 035 71040	100nF 10% 16V 0402
2802	3198 035 71040	100nF 10% 16V 0402
2803	3198 035 71040	100nF 10% 16V 0402
2804	3198 035 71040	100nF 10% 16V 0402
2805	3198 035 71040	100nF 10% 16V 0402
2806	3198 035 71040	100nF 10% 16V 0402
2807	3198 035 71040	100nF 10% 16V 0402
2808	3198 035 71040	100nF 10% 16V 0402
2809	3198 035 71040	100nF 10% 16V 0402
2810	3198 035 71040	100nF 10% 16V 0402
2811	3198 035 71040	100nF 10% 16V 0402
2812	3198 035 71040	100nF 10% 16V 0402
2813	3198 035 71040	100nF 10% 16V 0402
2814	3198 035 71040	100nF 10% 16V 0402
2815	5322 124 41945	22μF 20% 35V
2816	3198 035 71040	100nF 10% 16V 0402
2817	3198 035 71040	100nF 10% 16V 0402
2818	3198 035 71040	100nF 10% 16V 0402
2819	3198 035 71040	100nF 10% 16V 0402
2820	3198 035 71040	100nF 10% 16V 0402
2821	3198 035 71040	100nF 10% 16V 0402
2822	3198 035 71040	100nF 10% 16V 0402
2823	4822 126 14519	22pF 5% 50V 0402
2824	4822 126 14519	22pF 5% 50V 0402
2900	3198 035 71040	100nF 10% 16V 0402
2901	2020 552 96618	1nF 10% 50V 0402
2902	2020 021 00046	470μF 20% 16V
2903	3198 035 71040	100nF 10% 16V 0402
2904	4822 124 80151	47μF 16V
2905	2020 021 91557	100μF 20% 16V
2906	3198 035 71040	100nF 10% 16V 0402
2907	3198 035 71040	100nF 10% 16V 0402
2908	3198 035 71040	100nF 10% 16V 0402
2909	3198 035 71040	100nF 10% 16V 0402
2910	3198 035 71040	100nF 10% 16V 0402
2911	3198 035 71040	100nF 10% 16V 0402
2912	3198 035 71040	100nF 10% 16V 0402
2913	3198 035 71040	100nF 10% 16V 0402
2914	3198 035 71040	100nF 10% 16V 0402
2915	3198 035 71040	100nF 10% 16V 0402
2916	3198 035 71040	100nF 10% 16V 0402
2917	2020 021 91557	100μF 20% 16V
2918	3198 035 71040	100nF 10% 16V 0402
2919	3198 035 71040	100nF 10% 16V 0402
2920	3198 035 71040	100nF 10% 16V 0402
2921	3198 035 71040	100nF 10% 16V 0402
2922	3198 035 71040	100nF 10% 16V 0402
2923	3198 035 71040	100nF 10% 16V 0402
2924	3198 035 71040	100nF 10% 16V 0402
2925	3198 035 71040	100nF 10% 16V 0402
2926	3198 035 71040	100nF 10% 16V 0402
2927	3198 035 71040	100nF 10% 16V 0402
2928	3198 035 71040	100nF 10% 16V 0402
2929	3198 035 71040	100nF 10% 16V 0402
2930	3198 035 71040	100nF 10% 16V 0402
2931	3198 035 71040	100nF 10% 16V 0402
2932	3198 035 71040	100nF 10% 16V 0402
2933	3198 035 71040	100nF 10% 16V 0402
2934	4822 124 80151	47μF 16V
2935	3198 035 71040	100nF 10% 16V 0402
2936	3198 035 71040	100nF 10% 16V 0402
2937	3198 035 71040	100nF 10% 16V 0402
2938	3198 035 71040	100nF 10% 16V 0402
2939	3198 035 71040	100nF 10% 16V 0402
2940	4822 124 80151	47μF 16V
2941	3198 035 71040	100nF 10% 16V 0402
2942	3198 035 71040	100nF 10% 16V 0402
2945	5322 124 41945	22μF 20% 35V
2946	3198 035 71040	100nF 10% 16V 0402
2947	3198 035 71040	100nF 10% 16V 0402
2948	3198 035 71040	100nF 10% 16V 0402
2949	3198 035 71040	100nF 10% 16V 0402
2950	5322 124 41945	22μF 20% 35V
2951	3198 035 71040	100nF 10% 16V 0402
2952	3198 035 71040	100nF 10% 16V 0402
2953	3198 035 71040	100nF 10% 16V 0402
2954	3198 035 71040	100nF 10% 16V 0402
2955	5322 124 41945	22μF 20% 35V
2956	3198 035 71040	100nF 10% 16V 0402
2957	3198 035 71040	100nF 10% 16V 0402
2958	3198 035 71040	100nF 10% 16V 0402
2959	3198 035 71040	100nF 10% 16V 0402
2A00	2238 586 59812	100nF 20% 50V 0603
2A01	2238 869 15101	100pF 5% 50V 0402
2A02	2238 869 15101	100pF 5% 50V 0402
2A12	2020 552 96628	10nF 10% 16V 0402
2A13	3198 035 71040	100nF 10% 16V 0402
2B01	4822 124 80151	47μF 16V
2B02	4822 124 11131	47μF 6.3V
2B03	3198 035 71040	100nF 10% 16V 0402
2B04	3198 035 71040	100nF 10% 16V 0402
2B05	3198 035 71040	100nF 10% 16V 0402
2B06	3198 035 71040	100nF 10% 16V 0402
2B07	3198 035 71040	100nF 10% 16V 0402
2B08	3198 035 71040	100nF 10% 16V 0402
2B09	3198 035 71040	100nF 10% 16V 0402
2B10	3198 035 71040	100nF 10% 16V 0402
2B11	3198 035 71040	100nF 10% 16V 0402
2B12	3198 035 71040	100nF 10% 16V 0402
2B13	3198 035 71040	100nF 10% 16V 0402
2B14	3198 035 71040	100nF 10% 16V 0402
2B15	3198 035 71040	100nF 10% 16V 0402
2B16	3198 035 71040	100nF 10% 16V 0402
2B17	3198 035 71040	100nF 10% 16V 0402
2B18	5322 124 41945	22μF 20% 35V
2C00	3198 035 71040	100nF 10% 16V 0402
2C01	4822 124 23002	10μF 16V
2C02	3198 035 71040	100nF 10% 16V 0402
2C03	3198 035 71040	100nF 10% 16V 0402
2E00	2020 552 00005	4.7μF 10% 6.3V 0603
2E01	2020 552 00005	4.7μF 10% 6.3V 0603
2E02	2020 552 00005	4.7μF 10% 6.3V 0603
2E03	3198 035 71040	100nF 10% 16V 0402
2E04	2020 552 96834	1μF 20% 6.3V 0402
2E05	2020 552 96834	1μF 20% 6.3V 0402
2E06	2020 552 96834	1μF 20% 6.3V 0402
2E07	4822 126 14324	33pF 5% 50V 0402
2E08	2020 552 00005	4.7μF 10% 6.3V 0603
2E09	4822 126 14324	33pF 5% 50V 0402
2E10	2020 552 00005	4.7μF 10% 6.3V 0603
2E11	4822 126 14324	33pF 5% 50V 0402
2E12	2020 552 00005	4.7μF 10% 6.3V 0603
2E13	3198 017 41050	1μF 10V 0603
2E14	4822 126 14324	33pF 5% 50V 0402
2E15	3198 035 71040	100nF 10% 16V 0402
2E16	3198 035 71040	100nF 10% 16V 0402
2E17	3198 035 71040	100nF 10% 16V 0402
2E18	3198 035 71040	100nF 10% 16V 0402
2E19	3198 035 71040	100nF 10% 16V 0402
2E20	4822 124 11131	47μF 6.3V
2E21	2020 552 00005	4.7μF 10% 6.3V 0603
2E22	2020 552 00005	4.7μF 10% 6.3V 0603
2E23	2020 552 00005	4.7μF 10% 6.3V 0603
2E24	3198 035 71040	100nF 10% 16V 0402
2E25	3198 035 71040	100nF 10% 16V 0402
2E26	3198 035 71040	100nF 10% 16V 0402
2E27	3198 035 71040	100nF 10% 16V 0402
2E28	3198 035 71040	100nF 10% 16V 0402
2E29	3198 035 71040	100nF 10% 16V 0402
2E30	3198 035 71040	100nF 10% 16V 0402
2E31	3198 035 71040	100nF 10% 16V 0402
2E32	3198 035 71040	100nF 10% 16V 0402
2E33	2020 552 00005	4.7μF 10% 6.3V 0603
2E34	2020 552 00005	4.7μF 10% 6.3V 0603
2E35	2020 552 00005	4.7μF 10% 6.3V 0603
2E36	3198 035 71040	100nF 10% 16V 0402
2F04	2020 552 94427	100pF 5% 50V
2F07	2238 586 59812	100nF 20% 50V 0603
2F08	4822 126 14241	330pF 0603 50V
2F09	4822 126 14241	330pF 0603 50V
2F10	2020 552 94427	100pF 5% 50V
2F11	4822 126 14241	330pF 0603 50V
2F12	4822 126 14241	330pF 0603 50V
2F13	4822 126 14508	180pF 5% 50V 0603
2F14	4822 126 14508	180pF 5% 50V 0603
2F15	2020 552 00035	2.2μF 6.3V 10% 0603
2F16	2020 552 00035	2.2μF 6.3V 10% 0603
2G05	4822 126 14241	330pF 0603 50V
2G06	4822 126 14508	180pF 5% 50V 0603
2G07	4822 124 23002	10μF 16V
2G08	2020 552 00035	2.2μF 6.3V 10% 0603
2G09	4822 126 14241	330pF 0603 50V
2G10	4822 126 14508	180pF 5% 50V 0603
2G11	4822 124 23002	10μF 16V

2G12	2020 552 00035	2.2μF 6.3V 10% 0603
2G18	4822 126 14241	330pF 0603 50V
2G19	4822 126 14508	180pF 5% 50V 0603
2G20	4822 124 23002	10μF 16V
2G21	2020 552 00035	2.2μF 6.3V 10% 0603
2G22	4822 126 14241	330pF 0603 50V
2G23	4822 126 14508	180pF 5% 50V 0603
2G24	4822 124 23002	10μF 16V
2G25	2020 552 00035	2.2μF 6.3V 10% 0603
2G26	2020 552 00005	4.7μF 10% 6.3V 0603
2G28	2020 552 00005	4.7μF 10% 6.3V 0603
2G47	2238 586 59812	100nF 20% 50V 0603
2G55	2020 552 00005	4.7μF 10% 6.3V 0603
2G56	2020 552 00005	4.7μF 10% 6.3V 0603
2J02	2020 552 96618	1nF 10% 50V 0402
2J03	2020 552 96618	1nF 10% 50V 0402
2J17	2020 552 96618	1nF 10% 50V 0402
2J18	2238 869 15101	100pF 5% 50V 0402
2J19	2238 869 15101	100pF 5% 50V 0402
2J21	2238 869 15101	100pF 5% 50V 0402
2J22	2238 869 15101	100pF 5% 50V 0402
2J23	2238 869 15101	100pF 5% 50V 0402
2J26	2238 869 15101	100pF 5% 50V 0402
2J27	2238 869 15101	100pF 5% 50V 0402
2J28	2238 869 15101	100pF 5% 50V 0402
2J29	2238 869 15101	100pF 5% 50V 0402
2J30	2020 552 96618	1nF 10% 50V 0402
2J31	2238 869 15101	100pF 5% 50V 0402
2J35	2020 552 96618	1nF 10% 50V 0402
2K00	2020 552 96618	1nF 10% 50V 0402
2K01	2020 552 96618	1nF 10% 50V 0402
2K02	2238 869 15109	10pF 5% 50V 0402
2K03	2238 869 15109	10pF 5% 50V 0402
2K04	2238 869 15109	10pF 5% 50V 0402
2K05	2238 869 15109	10pF 5% 50V 0402
2K06	2238 869 15101	100pF 5% 50V 0402
2K07	2238 869 15101	100pF 5% 50V 0402
2K08	2020 552 00035	2.2μF 6.3V 10% 0603
2K10	2238 869 15101	100pF 5% 50V 0402
2K11	2238 869 15101	100pF 5% 50V 0402
2K12	2020 552 00035	2.2μF 6.3V 10% 0603
2K13	2238 869 15101	100pF 5% 50V 0402
2K14	2238 869 15101	100pF 5% 50V 0402
2K16	2238 869 15101	100pF 5% 50V 0402
2K17	2238 869 15101	100pF 5% 50V 0402
2K18	2238 869 15101	100pF 5% 50V 0402
2K19	2020 552 96618	1nF 10% 50V 0402
2K20	2020 552 96618	1nF 10% 50V 0402
2K21	2238 869 15101	100pF 5% 50V 0402
2K22	2238 869 15101	100pF 5% 50V 0402
2K23	2238 869 15101	100pF 5% 50V 0402
2K24	2238 869 15101	100pF 5% 50V 0402
2K25	2238 869 15101	100pF 5% 50V 0402
2K26	2238 869 15101	100pF 5% 50V 0402
2K27	2238 869 15101	100pF 5% 50V 0402
2K28	2238 869 15101	100pF 5% 50V 0402
2L02	2020 552 96637	10μF 10% 6.3V 0805
2L03	3198 035 71040	100nF 10% 16V 0402
2L04	3198 035 71040	100nF 10% 16V 0402
2L05	3198 035 71040	100nF 10% 16V 0402
2L06	3198 035 71040	100nF 10% 16V 0402
2L07	2020 552 96637	10μF 10% 6.3V 0805
2L08	3198 035 71040	100nF 10% 16V 0402
2L09	3198 035 71040	100nF 10% 16V 0402
2L10	3198 035 71040	100nF 10% 16V 0402
2L11	3198 035 71040	100nF 10% 16V 0402
2L13	3198 035 74730	47nF 5% 16V 0402
2L17	3198 035 74730	47nF 5% 16V 0402
2L20	3198 035 71040	100nF 10% 16V 0402
2L21	3198 035 71040	100nF 10% 16V 0402
2L22	2020 552 96637	10μF 10% 6.3V 0805
2L23	3198 035 71040	100nF 10% 16V 0402
2L24	3198 035 71040	100nF 10% 16V 0402
2L26	2020 552 96718	220nF 10% 6.3V 0402
2L27	4822 124 23002	10μF 16V
2L28	4822 124 23002	10μF 16V
2L29	4822 124 23002	10μF 16V
2L30	4822 124 23002	10μF 16V
2L31	4822 124 12095	100μF 20% 16V
2L32	4822 124 12095	100μF 20% 16V
2L33	3198 035 71040	100nF 10% 16V 0402
2L34	3198 035 71040	100nF 10% 16V 0402
2L37	4822 126 14524	68pF 5% 50V 0402
2L39	2238 869 15829	82pF 5% 50V 0402
2M00	3198 035 71040	100nF 10% 16V 0402
2M01	3198 035 71040	100nF 10% 16V 0402
2M02	3198 035 71040	100nF 10% 16V 0402
2M03	3198 035 71040	100nF 10% 16V 0402
2M04	3198 035 71040	100nF 10% 16V 0402
2M05	3198 035 71040	100nF 10% 16V 0402
2M06	3198 035 71040	100nF 10% 16V 0402
2M07	3198 035 71040	100nF 10% 16V 0402
2M08	3198 035 71040	100nF 10% 16V 0402
2M09	3198 035 71040	100nF 10% 16V 0402
2M10	3198 035 71040	100nF 10% 16V 0402
2M11	3198 035 71040	100nF 10% 16V 0402
2M12	3198 035 71040	100nF 10% 16V 0402
2M13	3198 035 71040	100nF 10% 16V 0402
2M14	3198 035 71040	100nF 10% 16V 0402
2M15	3198 035 71040	100nF 10% 16V 0402
2M16	3198 035 71040	100nF 10% 16V 0402
2M17	3198 035 71040	100nF 10% 16V 0402
2M18	3198 035 71040	100nF 10% 16V 0402
2M19	3198 035 71040	100nF 10% 16V 0402
2M20	3198 035 71040	100nF 10% 16V 0402
2M21	2020 552 00035	2.2μF 6.3V 10% 0603
2M22	3198 035 71040	100nF 10% 16V 0402
2M23	4822 124 12095	100μF 20% 16V
2M24	3198 035 71040	100nF 10% 16V 0402
2M25	3198 035 71040	100nF 10% 16V 0402
2M26	3198 035 71040	100nF 10% 16V 0402
2M27	3198 035 71040	100nF 10% 16V 0402
2M28	3198 035 71040	100nF 10% 16V 0402
2M29	3198 035 71040	100nF 10% 16V 0402
2M30	3198 035 71040	100nF 10% 16V 0402
2M31	4822 124 12095	100μF 20% 16V
2M32	4822 124 12095	100μF 20% 16V
2M56	4822 124 12095	100μF 20% 16V
2M65	3198 035 71040	100nF 10% 16V 0402
2M66	4822 124 12095	100μF 20% 16V
2M67	3198 035 71040	100nF 10% 16V 0402
2M68	4822 124 12095	100μF 20% 16V
2N01	3198 035 71040	100nF 10% 16V 0402
2N02	3198 035 71040	100nF 10% 16V 0402
2N03	2020 552 96834	1μF 20% 6.3V 0402
2N04	2020 552 96618	1nF 10% 50V 0402
2N05	3198 035 71040	100nF 10% 16V 0402
2N06	3198 035 71040	100nF 10% 16V 0402
2N07	3198 035 71040	100nF 10% 16V 0402
2N08	3198 035 71040	100nF 10% 16V 0402
2N09	3198 035 71040	100nF 10% 16V 0402
2N10	3198 035 71040	100nF 10% 16V 0402
2N11	2238 869 15101	100pF 5% 50V 0402
2N12	2238 869 15101	100pF 5% 50V 0402
2N13	2238 869 15101	100pF 5% 50V 0402
2N14	2238 869 15101	100pF 5% 50V 0402
2N15	2238 869 15101	100pF 5% 50V 0402
2N16	2238 869 15101	100pF 5% 50V 0402
2P01	2020 552 00035	2.2μF 6.3V 10% 0603
2P02	3198 035 71040	100nF 10% 16V 0402
2P03	3198 035 71040	100nF 10% 16V 0402
2P04	3198 035 71040	100nF 10% 16V 0402
2P05	3198 035 71040	100nF 10% 16V 0402
2P06	3198 035 71040	100nF 10% 16V 0402
2P07	3198 035 71040	100nF 10% 16V 0402
2P08	3198 035 71040	100nF 10% 16V 0402
2P09	3198 035 71040	100nF 10% 16V 0402
2P10	3198 035 71040	100nF 10% 16V 0402
2P11	3198 035 71040	100nF 10% 16V 0402
2P12	3198 035 71040	100nF 10% 16V 0402
2P13	3198 035 71040	100nF 10% 16V 0402
2P14	3198 035 71040	100nF 10% 16V 0402
2P15	4822 124 12095	100μF 20% 16V
2P16	3198 035 71040	100nF 10% 16V 0402
2P17	2020 552 00035	2.2μF 6.3V 10% 0603
2P18	2020 552 00035	2.2μF 6.3V 10% 0603
2P19	3198 035 71040	100nF 10% 16V 0402
2P20	3198 035 71040	100nF 10% 16V 0402
2P21	3198 035 71040	100nF 10% 16V 0402
2P22	2020 552 00035	2.2μF 6.3V 10% 0603
2P23	3198 035 71040	100nF 10% 16V 0402
2P24	3198 035 71040	100nF 10% 16V 0402
2P25	3198 035 71040	100nF 10% 16V 0402
2P26	3198 035 71040	100nF 10% 16V 0402
2P27	3198 035 71040	100nF 10% 16V 0402
2P28	3198 035 71040	100nF 10% 16V 0402
2P29	3198 035 71040	100nF 10% 16V 0402
2P30	3198 035 71040	100nF 10% 16V 0402
2P31	3198 035 71040	100nF 10% 16V 0402
2P32	3198 035 71040	100nF 10% 16V 0402
2P33	3198 035 71040	100nF 10% 16V 0402
2P34	3198 035 71040	100nF 10% 16V 0402
2P35	3198 035 71040	100nF 10% 16V 0402
2P36	2238 869 15109	10pF 5% 50V 0402
2P37	2238 869 15109	10pF 5% 50V 0402
2P38	2238 869 15109	10pF 5% 50V 0402
2P39	2238 869 15109	10pF 5% 50V 0402
2P40	2238 869 15109	10pF 5% 50V 0402
2P41	2238 869 15109	10pF 5% 50V 0402
2P42	2238 869 15109	10pF 5% 50V 0402
2P43	2238 869 15109	10pF 5% 50V 0402
2P44	2238 869 15109	10pF 5% 50V 0402
2P45	2238 869 15109	10pF 5% 50V 0402

-WW-

3103	4822 117 13606	10kΩ 5% 0.01W 0402
3104	4822 051 30103	10kΩ 5% 0.062W
3105	4822 117 13548	1kΩ 5% 0402
3107	4822 051 30682	6.8Ω 5% 0.062W
3108	4822 051 30222	2.2kΩ 5% 0.062W
3109	4822 051 30222	2.2kΩ 5% 0.062W
3111	4822 051 30223	22kΩ 5% 0.062W
3112	4822 051 30183	18kΩ 5% 0.062W
3120	4822 117 13606	10kΩ 5% 0.01W 0402
3121	4822 117 13606	10kΩ 5% 0.01W 0402
3122	4822 117 13545	100Ω 1% 0402
3123	4822 117 13545	100Ω 1% 0402
3124	4822 117 13545	100Ω 1% 0402
3125	4822 117 13545	100Ω 1% 0402
3207	3198 031 06810	680Ω 5% 0.01W 0402
3208	4822 117 13545	100Ω 1% 0402
3209	4822 117 13545	100Ω 1% 0402
3210	4822 117 13545	100Ω 1% 0402
3211	4822 117 13545	100Ω 1% 0402
3212	4822 117 13545	100Ω 1% 0402
3213	4822 117 13545	100Ω 1% 0402
3214	3198 031 06810	680Ω 5% 0.01W 0402
3215	3198 031 02710	270Ω 5% 0.1W 0402
3216	4822 117 13597	330Ω 5% 0402 0.01W
3217	4822 117 13548	1kΩ 5% 0402
3218	4822 117 11297	100kΩ 5% 0.1W
3219	4822 117 13545	100Ω 1% 0402
3220	3198 031 04730	47Ω 5% 0402
3222	4822 117 13545	100Ω 1% 0402
3223	3198 031 01090	10Ω 5% 0.01W 0402
3224	3198 031 04720	4.7kΩ 5% 0402
3225	3198 031 04720	4.7kΩ 5% 0402
3226	4822 117 13545	100Ω 1% 0402
3227	4822 117 13545	100Ω 1% 0402
3229	3198 031 04720	4.7kΩ 5% 0402
3230	4822 117 13606	10kΩ 5% 0.01W 0402
3231	4822 117 13602	2.2kΩ 5% 0.01W 0402
3232	3198 031 03320	3.3kΩ 5% 0402
3233	3198 031 03320	3.3kΩ 5% 0402
3234	3198 031 04720	4.7kΩ 5% 0402
3235	3198 031 04720	4.7kΩ 5% 0402
3236	3198 031 04720	4.7kΩ 5% 0402
3238	4822 117 13545	100Ω 1% 0402
3239	4822 117 13545	100Ω 1% 0402
3240	2322 704 61002	1kΩ 1%
3241	4822 117 13545	100Ω 1% 0402
3242	4822 117 13606	10kΩ 5% 0.01W 0402
3243	3198 031 04720	4.7kΩ 5% 0402
3245	3198 031 02240	220kΩ 5% 0.1W 0402
3246	3198 031 04720	4.7kΩ 5% 0402
3247	4822 117 13545	100Ω 1% 0402
3248	4822 117 13545	100Ω 1% 0402
3249	3198 031 04720	4.7kΩ 5% 0402
3250	4822 117 13545	100Ω 1% 0402
3251	4822 117 13545	100Ω 1% 0402
3252	4822 117 13545	100Ω 1% 0402
3253	4822 117 13545	100Ω 1% 0402
3255	4822 117 13605	Jumper 0402
3256	4822 117 13605	Jumper 0402
3257	4822 117 13605	Jumper 0402
3258	4822 117 13548	1kΩ 5% 0402
3259	4822 117 13548	1kΩ 5% 0402
3260	4822 117 13548	1kΩ 5% 0402
3262	4822 117 13601	22kΩ 5% 0402
3263	2322 702 70398	3.9Ω 5% 0603
3264	4822 117 13601	22kΩ 5% 0402
3265	2322 702 70398	3.9Ω 5% 0603
3266	3198 031 05620	5.6kΩ 5% 0.01W 0402
3267	3198 031 05620	5.6kΩ 5% 0.01W 0402
3268	4822 117 13545	100Ω 1% 0402
3272	3198 031 04720	4.7kΩ 5% 0402
3273	4822 117 13548	1kΩ 5% 0402
3274	3198 031 03910	390Ω 1% 0402
3275	4822 117 13545	100Ω 1% 0402
3276	3198 031 07590	75Ω 5% 0402
3277	3198 031 01520	1.2kΩ 5% 0.01W 0402
3280▲	4822 117 11151	1Ω 5%
3281	3198 031 03930	39kΩ 5% 0402
3285	4822 117 13605	Jumper 0402
3286	4822 117 13545	100Ω 1% 0402
3292▲	3198 031 01230	12kΩ 5% 0402
3294▲	3198 031 04730	47Ω 5% 0402
3295▲	4822 117 11297	100kΩ 5% 0.1W
3431	4822 117 13548	1kΩ 5% 0402
3451	3198 031 04720	4.7kΩ 5% 0402
3453	4822 117 13545	100Ω 1% 0402
3454	4822 117 13545	100Ω 1% 0402
3455	4822 117 13545	100Ω 1% 0402
3456	4822 117 13545	100Ω 1% 0402
3458	4822 117 13545	100Ω 1% 0402
3459	4822 117 13545	100Ω 1% 0402
3461	4822 117 13545	100Ω 1% 0402
3462	4822 117 13545	100Ω 1% 0402
3501	4822 117 13543	470Ω 5% 0402
3502	3198 031 04730	47Ω 5% 0402

3604	4822 117 13601	22kΩ 5% 0402
3605	4822 117 13601	22kΩ 5% 0402
3609	4822 117 13601	22kΩ 5% 0402
3610	4822 117 11297	100kΩ 5% 0.1W
3611	4822 117 11297	100kΩ 5% 0.1W
3612	4822 117 13601	22kΩ 5% 0402
3616	4822 117 13548	1kΩ 5% 0402
3617	4822 117 13548	1kΩ 5% 0402
3619	4822 117 13606	10kΩ 5% 0.01W 0402
3620	4822 117 13606	10kΩ 5% 0.01W 0402
3628	4822 117 13606	10kΩ 5% 0.01W 0402
3629	4822 117 13601	22kΩ 5% 0402
3630	4822 117 13602	2.2kΩ 5% 0.01W 0402
3631	4822 117 13602	2.2kΩ 5% 0.01W 0402
3632	2322 705 70569	56Ω 5% 0402
3633	2322 705 70569	56Ω 5% 0402
3708	4822 117 13606	10kΩ 5% 0.01W 0402
3709	3198 031 06820	6.8kΩ 5% 0.01W 0402
3712	5322 117 13031	5.6kΩ 1% 0.063W 0603
3713	2322 704 63302	3.3kΩ 1% 0603
3716	3198 031 04720	4.7kΩ 5% 0402
3732	2322 704 61002	1kΩ 1%
3733	2322 704 63302	3.3kΩ 1% 0603
3734	4822 117 13602	2.2kΩ 5% 0.01W 0402
3735	4822 117 13548	1kΩ 5% 0402
3736	3198 031 04720	4.7kΩ 5% 0402
3740	3198 031 01520	1.2kΩ 5% 0.01W 0402
3741	3198 031 01520	1.2kΩ 5% 0.01W 0402
3742	3198 031 01530	15kΩ 5% 0.01W 0402
3743	4822 117 13601	22kΩ 5% 0402
3750	4822 117 13601	22kΩ 5% 0402
3751	3198 021 31080	1Ω 5% 0603
3752	3198 021 31080	1Ω 5% 0603
3753	2322 704 61002	1kΩ 1%
3754	2322 704 63302	3.3kΩ 1% 0603
3759	3198 031 01230	12kΩ 5% 0402
3761	4822 117 13545	100Ω 1% 0402
3800	4822 117 13606	10kΩ 5% 0.01W 0402
3801	2350 035 10229	4 x 22Ω 5% 1206
3802	2350 035 10229	4 x 22Ω 5% 1206
3803	2350 035 10229	4 x 22Ω 5% 1206
3804	2350 035 10229	4 x 22Ω 5% 1206
3805	2350 035 10229	4 x 22Ω 5% 1206
3806	2350 035 10229	4 x 22Ω 5% 1206
3807	2350 035 10229	4 x 22Ω 5% 1206
3808	2350 035 10229	4 x 22Ω 5% 1206
3809	2350 035 10229	4 x 22Ω 5% 1206
3810	2350 035 10229	4 x 22Ω 5% 1206
3811	2350 035 10229	4 x 22Ω 5% 1206
3812	2350 035 10229	4 x 22Ω 5% 1206
3813	2350 035 10229	4 x 22Ω 5% 1206
3814	3198 031 02290	22Ω 5% 0.1W 0402
3815	3198 031 02290	22Ω 5% 0.1W 0402
3816	3198 031 02290	22Ω 5% 0.1W 0402
3817	4822 117 13606	10kΩ 5% 0.01W 0402
3818	4822 117 13606	10kΩ 5% 0.01W 0402
3820	4822 117 13606	10kΩ 5% 0.01W 0402
3822	4822 117 13545	100Ω 1% 0402
3824	3198 031 03320	3.3kΩ 5% 0402
3825	3198 031 11030	4 x 10kΩ 5% 1206
3826	3198 031 11030	4 x 10kΩ 5% 1206
3827	4822 117 13606	10kΩ 5% 0.01W 0402
3828	4822 117 13606	10kΩ 5% 0.01W 0402
3829	4822 117 13606	10kΩ 5% 0.01W 0402
3831	4822 117 13545	100Ω 1% 0402
3832	4822 117 13545	100Ω 1% 0402
3833	3198 031 01090	10Ω 5% 0.01W 0402
3834	4822 117 13606	10kΩ 5% 0.01W 0402
3835	4822 117 13606	10kΩ 5% 0.01W 0402
3836	4822 117 13606	10kΩ 5% 0.01W 0402
3837	4822 117 13606	10kΩ 5% 0.01W 0402
3838	4822 117 13606	10kΩ 5% 0.01W 0402
3839	4822 117 13545	100Ω 1% 0402
3840	3198 031 02290	22Ω 5% 0.1W 0402
3841	4822 117 13606	10kΩ 5% 0.01W 0402
3900	3198 031 03320	3.3kΩ 5% 0402
3901	4822 117 13606	10kΩ 5% 0.01W 0402
3902	4822 117 13606	10kΩ 5% 0.01W 0402
3903	4822 117 13545	100Ω 1% 0402
3904	4822 117 13545	100Ω 1% 0402
3A00	3198 031 06890	68Ω 5% 0402
3A01	3198 031 06890	68Ω 5% 0402
3A07	4822 117 13606	10kΩ 5% 0.01W 0402
3A08	4822 117 13606	10kΩ 5% 0.01W 0402
3A10	4822 117 13606	10kΩ 5% 0.01W 0402
3A11	4822 117 13606	10kΩ 5% 0.01W 0402
3A13	4822 117 13606	10kΩ 5% 0.01W 0402
3A14	3198 031 04720	4.7kΩ 5% 0402
3B01	4822 117 12706	10kΩ 1% 0.063W 0603
3B02	4822 117 12706	10kΩ 1% 0.063W 0603
3B03	2322 704 61501	150Ω 1% 0603
3C00	4822 117 13606	10kΩ 5% 0.01W 0402
3C01	4822 117 13606	10kΩ 5% 0.01W 0402
3C02	4822 117 13548	1kΩ 5% 0402

3C04	3198 031 11030	4 x 10kΩ 5% 1206
3C05	4822 117 13606	10kΩ 5% 0.01W 0402
3C06	3198 031 11030	4 x 10kΩ 5% 1206
3C07	3198 031 11030	4 x 10kΩ 5% 1206
3C08	3198 031 11030	4 x 10kΩ 5% 1206
3C09	3198 031 11030	4 x 10kΩ 5% 1206
3C10	3198 031 11030	4 x 10kΩ 5% 1206
3C16	3198 031 11030	4 x 10kΩ 5% 1206
3C17	4822 117 13606	10kΩ 5% 0.01W 0402
3C18	4822 117 13606	10kΩ 5% 0.01W 0402
3E00	2322 705 70569	56Ω 5% 0402
3E01	2322 705 70569	56Ω 5% 0402
3E02	2322 705 70569	56Ω 5% 0402
3E06	3198 031 04730	47Ω 5% 0402
3E07	3198 031 04730	47Ω 5% 0402
3E08	3198 031 04730	47Ω 5% 0402
3E09	3198 031 04730	47Ω 5% 0402
3E10	3198 031 04730	47Ω 5% 0402
3E11	3198 031 04730	47Ω 5% 0402
3E12	4822 117 13606	10kΩ 5% 0.01W 0402
3E13	4822 117 13597	330Ω 5% 0402 0.01W
3E14	4822 117 13597	330Ω 5% 0402 0.01W
3E15	4822 117 13597	330Ω 5% 0402 0.01W
3E16	4822 117 13597	330Ω 5% 0402 0.01W
3E17	4822 117 13597	330Ω 5% 0402 0.01W
3E18	4822 117 13597	330Ω 5% 0402 0.01W
3E19	2322 705 70569	56Ω 5% 0402
3E20	2322 705 70569	56Ω 5% 0402
3E21	2322 705 70569	56Ω 5% 0402
3E22	4822 117 13632	100kΩ 1% 0603 0.62W
3E23	3198 031 08210	820Ω 5% 0.5W
3E24	4822 117 13543	470Ω 5% 0402
3E25	2322 705 70399	39Ω 5% 0402
3E26	3198 031 02290	22Ω 5% 0.1W 0402
3E27	2322 705 70399	39Ω 5% 0402
3E28	3198 031 02290	22Ω 5% 0.1W 0402
3E29	2322 705 70399	39Ω 5% 0402
3E30	3198 031 02290	22Ω 5% 0.1W 0402
3E31	4822 117 13545	100Ω 1% 0402
3E32	4822 117 13545	100Ω 1% 0402
3E33	4822 117 13545	100Ω 1% 0402
3E34	4822 117 13545	100Ω 1% 0402
3E35	4822 117 13545	100Ω 1% 0402
3E36	4822 117 13545	100Ω 1% 0402
3E37	3198 031 02290	22Ω 5% 0.1W 0402
3E38	4822 117 13545	100Ω 1% 0402
3E39	4822 117 13545	100Ω 1% 0402
3E41	4822 117 13545	100Ω 1% 0402
3E42	4822 117 13545	100Ω 1% 0402
3E43	4822 117 13545	100Ω 1% 0402
3E44	4822 117 13545	100Ω 1% 0402
3E45	4822 117 13545	100Ω 1% 0402
3E49	3198 031 02290	22Ω 5% 0.1W 0402
3E50	3198 031 04730	47Ω 5% 0402
3E51	3198 031 04730	47Ω 5% 0402
3E52	3198 031 04730	47Ω 5% 0402
3E53	3198 031 04730	47Ω 5% 0402
3E54	3198 031 04730	47Ω 5% 0402
3E55	3198 031 04730	47Ω 5% 0402
3F00	4822 051 30759	75Ω 5% 0.062W
3F09	4822 051 30759	75Ω 5% 0.062W
3F10	3198 021 31080	1Ω 5% 0603
3F11	4822 051 30759	75Ω 5% 0.062W
3F16	4822 051 30103	10kΩ 5% 0.062W
3F17	4822 051 30103	10kΩ 5% 0.062W
3F18	4822 051 30103	10kΩ 5% 0.062W
3F19	3198 021 31080	1Ω 5% 0603
3F20	4822 051 30101	100Ω 5% 0.062W
3F21	4822 051 30102	1kΩ 5% 0.062W
3F22	4822 051 30103	10kΩ 5% 0.062W
3F23	4822 051 30102	1kΩ 5% 0.062W
3F24	4822 051 30103	10kΩ 5% 0.062W
3F25	4822 051 30103	10kΩ 5% 0.062W
3F26	4822 051 30153	15kΩ 5% 0.062W
3F27	4822 051 30153	15kΩ 5% 0.062W
3F28	4822 051 30101	100Ω 5% 0.062W
3F29	4822 051 30101	100Ω 5% 0.062W
3G00	4822 051 30151	150Ω 5% 0.062W
3G01	4822 051 30103	10kΩ 5% 0.062W
3G02	4822 117 12891	220kΩ 1%
3G03	4822 051 30153	15kΩ 5% 0.062W
3G04	4822 051 30151	150Ω 5% 0.062W
3G05	4822 051 30103	10kΩ 5% 0.062W
3G06	4822 117 12891	220kΩ 1%
3G07	4822 051 30153	15kΩ 5% 0.062W
3G08	4822 051 30151	150Ω 5% 0.062W
3G12	2122 118 06408	91Ω 5% 0603
3G13	2122 118 06408	91Ω 5% 0603
3G14	2122 118 06408	91Ω 5% 0603
3G15	4822 051 30101	100Ω 5% 0.062W
3G16	4822 051 30101	100Ω 5% 0.062W
3G17	4822 051 30101	100Ω 5% 0.062W
3G26	4822 051 30273	27kΩ 5% 0.062W
3G27	4822 051 30682	6.8Ω 5% 0.062W

3G28	4822 051 30759	75Ω 5% 0.062W
3G29	4822 051 30331	330Ω 5% 0.062W
3G30	4822 051 30689	68Ω 5% 0.063W 0603
3G31	4822 051 30759	75Ω 5% 0.062W
3G32	4822 051 30102	1kΩ 5% 0.062W
3G33	4822 051 30101	100Ω 5% 0.062W
3G34	4822 051 30102	1kΩ 5% 0.062W
3G37	4822 051 30151	150Ω 5% 0.062W
3G38	4822 051 30103	10kΩ 5% 0.062W
3G39	4822 117 12891	220kΩ 1%
3G40	4822 051 30153	15kΩ 5% 0.062W
3G41	4822 051 30151	150Ω 5% 0.062W
3G42	4822 051 30103	10kΩ 5% 0.062W
3G43	4822 117 12891	220kΩ 1%
3G44	4822 051 30153	15kΩ 5% 0.062W
3G45	4822 051 30759	75Ω 5% 0.062W
3G46	4822 051 30101	100Ω 5% 0.062W
3G47	4822 117 12925	47kΩ 1% 0.063W 0603
3G48	4822 117 12925	47kΩ 1% 0.063W 0603
3G51	4822 051 30273	27kΩ 5% 0.062W
3G52	4822 051 30682	6.8Ω 5% 0.062W
3G53	4822 051 30689	68Ω 5% 0.063W 0603
3G54	4822 051 30102	1kΩ 5% 0.062W
3G57	4822 051 30759	75Ω 5% 0.062W
3G58	4822 051 30101	100Ω 5% 0.062W
3G59	4822 117 12925	47kΩ 1% 0.063W 0603
3G60	4822 117 12925	47kΩ 1% 0.063W 0603
3G96	4822 117 12925	47kΩ 1% 0.063W 0603
3G99	4822 117 12925	47kΩ 1% 0.063W 0603
3J05	3198 031 06890	68Ω 5% 0402
3K00	4822 117 13545	100Ω 1% 0402
3K01	4822 117 13545	100Ω 1% 0402
3K02	4822 117 13606	10kΩ 5% 0.01W 0402
3K03	3198 031 01530	15kΩ 5% 0.01W 0402
3K05	4822 117 13606	10kΩ 5% 0.01W 0402
3K06	3198 031 01530	15kΩ 5% 0.01W 0402
3K07	2322 705 70399	39Ω 5% 0402
3K09	2322 705 70399	39Ω 5% 0402
3K11	3198 031 06890	68Ω 5% 0402
3K12	3198 031 06890	68Ω 5% 0402
3K13	3198 031 06890	68Ω 5% 0402
3L00	4822 117 13548	1kΩ 5% 0402
3L04	4822 117 13605	Jumper 0402
3L05	3198 031 01510	150Ω 5% 0.01W 0402
3L06	4822 117 13605	Jumper 0402
3L10	4822 117 13597	330Ω 5% 0402 0.01W
3L11	3198 031 01510	150Ω 5% 0.01W 0402
3L12	4822 117 13548	1kΩ 5% 0402
3L16	4822 117 13605	Jumper 0402
3L17	3198 031 01510	150Ω 5% 0.01W 0402
3L19	3198 031 01510	150Ω 5% 0.01W 0402
3L20	3198 031 01510	150Ω 5% 0.01W 0402
3L21	4822 117 13602	2.2kΩ 5% 0.01W 0402
3L22	4822 117 13602	2.2kΩ 5% 0.01W 0402
3L24	4822 117 13602	2.2kΩ 5% 0.01W 0402
3L25	2350 035 10229	4 x 22Ω 5% 1206
3L26	2350 035 10229	4 x 22Ω 5% 1206
3L27	2350 035 10229	4 x 22Ω 5% 1206
3L28	2350 035 10229	4 x 22Ω 5% 1206
3L30	3198 031 02290	22Ω 5% 0.1W 0402
3L31	3198 031 02290	22Ω 5% 0.1W 0402
3L32	4822 117 13602	2.2kΩ 5% 0.01W 0402
3L33	4822 117 13596	220Ω 5% 0.01W 0402
3L34	4822 117 13605	Jumper 0402
3L35	4822 117 13596	220Ω 5% 0.01W 0402
3L36	3198 031 03320	3.3kΩ 5% 0402
3L37	3198 031 03320	3.3kΩ 5% 0402
3M01	2350 035 10689	4 x 68Ω 5%
3M02	2350 035 10689	4 x 68Ω 5%
3M03	2350 035 10689	4 x 68Ω 5%
3M04	2350 035 10689	4 x 68Ω 5%
3M06	2350 035 10229	4 x 22Ω 5% 1206
3M07	2350 035 10229	4 x 22Ω 5% 1206
3M08	2350 035 10229	4 x 22Ω 5% 1206
3M09	2350 035 10229	4 x 22Ω 5% 1206
3M11	3198 031 04720	4.7kΩ 5% 0402
3M13	3198 031 04720	4.7kΩ 5% 0402
3M14	4822 117 13545	100Ω 1% 0402
3M15	4822 117 13545	100Ω 1% 0402
3M16	3198 031 04720	4.7kΩ 5% 0402
3M26	4822 117 13605	Jumper 0402
3M27	4822 117 13605	Jumper 0402
3M50	4822 117 13606	10kΩ 5% 0.01W 0402
3M51	4822 117 13606	10kΩ 5% 0.01W 0402
3M52	4822 117 13606	10kΩ 5% 0.01W 0402
3M53	4822 117 13546	47Ω 5% 0402
3M54	4822 117 13546	47Ω 5% 0402
3M55	4822 117 13546	47Ω 5% 0402
3M56	4822 117 13606	10kΩ 5% 0.01W 0402
3M57	4822 117 13546	47Ω 5% 0402
3M58	4822 117 13606	10kΩ 5% 0.01W 0402
3M59	4822 117 13546	47Ω 5% 0402
3M78	4822 117 13548	1kΩ 5% 0402
3M79	3198 031 03320	3.3kΩ 5% 0402

3M87	4822 117 13605	Jumper 0402
3M89	3198 031 02290	22Ω 5% 0.1W 0402
3M90	3198 031 02290	22Ω 5% 0.1W 0402
3N01	4822 117 13606	10kΩ 5% 0.01W 0402
3N02	4822 117 13606	10kΩ 5% 0.01W 0402
3N03	4822 117 13606	10kΩ 5% 0.01W 0402
3N04	4822 117 13606	10kΩ 5% 0.01W 0402
3N05	4822 117 13606	10kΩ 5% 0.01W 0402
3N06	4822 117 13606	10kΩ 5% 0.01W 0402
3N07	4822 051 30333	33kΩ 5% 0.062W
3N08	4822 117 13606	10kΩ 5% 0.01W 0402
3N09	4822 117 13548	1kΩ 5% 0402
3N10	4822 117 13603	33kΩ 5% 0402
3N11	4822 117 13546	47Ω 5% 0402
3N12	4822 117 13606	10kΩ 5% 0.01W 0402
3N13	4822 117 13606	10kΩ 5% 0.01W 0402
3N14	4822 117 13606	10kΩ 5% 0.01W 0402
3N15	4822 117 13546	47Ω 5% 0402
3N16	4822 117 13546	47Ω 5% 0402
3N17	4822 117 13546	47Ω 5% 0402
3N18	4822 117 13546	47Ω 5% 0402
3N19	4822 117 13606	10kΩ 5% 0.01W 0402
3N20	4822 117 13546	47Ω 5% 0402
3N21	4822 117 13545	100Ω 1% 0402
3N22	4822 117 13545	100Ω 1% 0402
3N23	4822 117 13545	100Ω 1% 0402
3N24	4822 117 13545	100Ω 1% 0402
3N25	4822 117 13545	100Ω 1% 0402
3N26	3198 031 04720	4.7kΩ 5% 0402
3N27	4822 117 13546	47Ω 5% 0402
3N28	4822 051 30181	180Ω 5% 0.062W
3N29	4822 117 13545	100Ω 1% 0402
3N30	4822 117 13545	100Ω 1% 0402
3N31	4822 117 13545	100Ω 1% 0402
3N32	4822 117 13545	100Ω 1% 0402
3N33	4822 117 13545	100Ω 1% 0402
3N34	4822 117 13545	100Ω 1% 0402
3N35	4822 117 13545	100Ω 1% 0402
3N46	4822 117 13545	100Ω 1% 0402
3N47	4822 117 13545	100Ω 1% 0402
3P01	3198 031 04720	4.7kΩ 5% 0402
3P03	4822 117 13546	47Ω 5% 0402
3P04	4822 117 13545	100Ω 1% 0402
3P04	4822 117 13605	Jumper 0402
3P05	4822 117 13545	100Ω 1% 0402
3P05	4822 117 13605	Jumper 0402
3S00	4822 117 12925	47kΩ 1% 0.063W 0603
3S03	4822 117 12925	47kΩ 1% 0.063W 0603
4211	4822 117 13605	Jumper 0402
4212	4822 117 13605	Jumper 0402
4440	4822 117 13605	Jumper 0402
4441	4822 117 13605	Jumper 0402
4501	4822 117 13605	Jumper 0402
4502	4822 117 13605	Jumper 0402
4504	4822 117 13605	Jumper 0402
4511	4822 117 13605	Jumper 0402
4801	4822 117 13605	Jumper 0402
4A04	4822 117 13605	Jumper 0402
4J01	4822 117 13605	Jumper 0402
4K04	4822 117 13605	Jumper 0402
4K05	4822 117 13605	Jumper 0402
4L02	4822 117 13605	Jumper 0402
4M00	4822 117 13605	Jumper 0402
4M01	4822 117 13605	Jumper 0402
4M02	4822 117 13605	Jumper 0402
4M03	4822 117 13605	Jumper 0402
4M05	4822 117 13605	Jumper 0402
4M08	4822 117 13605	Jumper 0402
4M09	4822 117 13605	Jumper 0402
4M10	4822 117 13605	Jumper 0402
4M16	4822 117 13605	Jumper 0402
4M17	4822 117 13605	Jumper 0402
4N01	4822 117 13605	Jumper 0402
4N02	4822 117 13605	Jumper 0402
4N03	4822 117 13605	Jumper 0402
4N04	4822 117 13605	Jumper 0402
4N05	4822 117 13605	Jumper 0402
4N06	4822 117 13605	Jumper 0402
4N07	4822 117 13605	Jumper 0402
4N08	4822 117 13605	Jumper 0402
4N09	4822 117 13605	Jumper 0402
4N10	4822 117 13605	Jumper 0402
4N11	4822 117 13605	Jumper 0402
4N12	4822 117 13605	Jumper 0402
4N13	4822 117 13605	Jumper 0402
4N14	4822 117 13605	Jumper 0402
4N15	4822 117 13605	Jumper 0402
4N16	4822 117 13605	Jumper 0402
4N17	4822 117 13605	Jumper 0402
4N18	4822 117 13605	Jumper 0402
4N19	4822 117 13605	Jumper 0402
4N20	4822 117 13605	Jumper 0402
4N21	4822 117 13605	Jumper 0402
4N22	4822 117 13605	Jumper 0402
4P07	4822 117 13605	Jumper 0402

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5101	3198 018 33970	0.39µF 10% 0805
5103	4822 157 71334	0.68µH 5% 1008
5107	4822 051 30101	100Ω 5% 0.062W
5108	4822 051 30101	100Ω 5% 0.062W
5201	4822 157 11716	Bead 30Ω at 100MHz
5202	4822 157 11716	Bead 30Ω at 100MHz
5203	4822 157 11716	Bead 30Ω at 100MHz
5204	2422 549 42896	Bead 120Ω 100MHz
5205	4822 157 11716	Bead 30Ω at 100MHz
5206	4822 157 11716	Bead 30Ω at 100MHz
5207	2422 549 42896	Bead 120Ω 100MHz
5208	4822 157 11716	Bead 30Ω at 100MHz
5209	4822 157 11716	Bead 30Ω at 100MHz
5210	4822 157 11716	Bead 30Ω at 100MHz
5211	4822 157 11716	Bead 30Ω at 100MHz
5212	4822 157 11716	Bead 30Ω at 100MHz
5213	4822 157 11716	Bead 30Ω at 100MHz
5214	2422 536 00667	1000µF 20% 7032
5216	4822 157 11716	Bead 30Ω at 100MHz
5218▲	2422 549 45333	Bead 120Ω 100MHz
5501	3198 018 31080	1uF 10% 0805
5704	4822 157 63635	10µF 20% 1206
5709	2422 535 94134	10µH 20% 0805
5712	2422 536 00339	33µ 20%
5713	2422 535 94995	10µF 20% 10145
5730	2422 535 94134	10µH 20% 0805
5733	2422 536 00689	220µF 20%
5735	2422 536 00667	1000µF 20% 7032
5737	2422 535 94134	10µH 20% 0805
5738	2422 549 45333	Bead 120Ω 100MHz
5752	2422 535 94134	10µH 20% 0805
5753	2422 536 00689	220µF 20%
5754	2422 535 94134	10µH 20% 0805
5900	2422 549 45333	Bead 120Ω 100MHz
5901	2422 549 45333	Bead 120Ω 100MHz
5902	2422 549 45333	Bead 120Ω 100MHz
5903	2422 549 45333	Bead 120Ω 100MHz
5904	2422 549 45333	Bead 120Ω 100MHz
5905	2422 549 45333	Bead 120Ω 100MHz
5906	2422 549 45333	Bead 120Ω 100MHz
5907	2422 549 45333	Bead 120Ω 100MHz
5908	2422 549 45333	Bead 120Ω 100MHz
5909	2422 549 45333	Bead 120Ω 100MHz
5910	2422 549 45333	Bead 120Ω 100MHz
5911	2422 549 45333	Bead 120Ω 100MHz
5A00	4822 157 11716	Bead 30Ω at 100MHz
5C00	2422 549 45333	Bead 120Ω 100MHz
5E00	2422 549 45333	Bead 120Ω 100MHz
5E01	2422 549 45333	Bead 120Ω 100MHz
5E02	2422 549 45333	Bead 120Ω 100MHz
5E03	2422 549 45333	Bead 120Ω 100MHz
5F00	2422 549 45333	Bead 120Ω 100MHz
5F01	2422 549 45333	Bead 120Ω 100MHz
5F02	2422 549 45333	Bead 120Ω 100MHz
5F03	2422 549 45333	Bead 120Ω 100MHz
5G02	2422 549 45333	Bead 120Ω 100MHz
5J01	2422 549 42896	Bead 120Ω 100MHz
5J02	2422 549 42896	Bead 120Ω 100MHz
5J03	2422 549 45333	Bead 120Ω 100MHz
5J04	2422 549 45333	Bead 120Ω 100MHz
5L00	2422 549 45333	Bead 120Ω 100MHz
5L01	2422 549 45333	Bead 120Ω 100MHz
5L02	2422 549 45333	Bead 120Ω 100MHz
5M00	2422 549 45333	Bead 120Ω 100MHz
5M01	2422 549 45333	Bead 120Ω 100MHz
5M02	2422 549 45333	Bead 120Ω 100MHz
5M03	2422 549 45333	Bead 120Ω 100MHz
5M04	2422 549 45333	Bead 120Ω 100MHz
5M05	2422 549 45333	Bead 120Ω 100MHz
5N01	4822 157 11716	Bead 30Ω at 100MHz
5N02	4822 157 11716	Bead 30Ω at 100MHz
5N03	4822 157 11716	Bead 30Ω at 100MHz
5N04	4822 157 11716	Bead 30Ω at 100MHz
5N05	4822 157 11716	Bead 30Ω at 100MHz
5P01	4822 157 11716	Bead 30Ω at 100MHz
5P02	4822 157 11716	Bead 30Ω at 100MHz
5P03	4822 157 11716	Bead 30Ω at 100MHz
5P04	4822 157 11716	Bead 30Ω at 100MHz
5P05	4822 157 11716	Bead 30Ω at 100MHz
5P06	4822 157 11716	Bead 30Ω at 100MHz

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6101	4822 130 11416	PDZ6.8B
6102	4822 130 11416	PDZ6.8B
6103	4822 130 11397	BAS316
6104	4822 130 11525	1SS356
6204	4822 130 80622	BAT54
6205	4822 130 80622	BAT54
6430	9340 548 42115	PDZ2.4B
6431	9965 000 20150	1N4148WS SOD-323
6601	4822 130 10838	UDZ3.3B
6708	3198 010 10720	SS24
6709	9322 128 70685	SMSS14
6712	3198 010 10730	SS36
6733	9322 128 70685	SMSS14
6735	5322 130 34337	BAV99
6736	9340 548 71115	PDZ33B
6740	4822 130 10837	UDZS8.2B
6751	9322 128 70685	SMSS14
6E01	9322 102 64685	UDZ2.7B
6E03	9322 102 64685	UDZ2.7B
6F00	4822 130 11397	BAS316
6F01	4822 130 11397	BAS316
6G03	4822 130 11416	PDZ6.8B
6G04	4822 130 11416	PDZ6.8B
6G05	4822 130 11416	PDZ6.8B
6G06	4822 130 11416	PDZ6.8B
6G07	4822 130 11416	PDZ6.8B
6G08	4822 130 11416	PDZ6.8B
6G09	4822 130 11416	PDZ6.8B
6G10	4822 130 11416	PDZ6.8B
6N01	9322 085 77685	TLMG3100

▭ Software 42PF 7320/10 (See Product Survey)

7050	3104 337 00881
7051	3104 337 31181
7052	3104 317 09141
7055	3104 317 08881

▭ Software 42PF 5320/10 (See Product Survey)

7050	3104 337 00881
7051	3104 337 01191
7055	3104 317 08891

▭ Software 50 PF 7320/10 (See Product Survey)

7050	3104 337 00881	
7051	3104 337 01191	
7055	3104 317 08881	For SDI Sets
7055	3104 317 08891	For LG Sets

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7101	3198 010 42310	BC847BW
7201	9340 550 49115	PUMH7
7202	9340 550 49115	PUMH7
7206	4822 130 60373	BC856B
7207	9322 214 45668	M24C16-WMN6P
7208	3198 010 42310	BC847BW
7209	3198 010 42310	BC847BW
7210	3198 010 42310	BC847BW
7214	9339 693 90135	BCP69-25
7215	9339 693 90135	BCP69-25
7216	9340 425 20115	BC847BS
7217		For SW see item 7050
7219▲	4822 209 60792	74HC4053D
7430	4822 130 11155	PDTC114ET
7436	9352 607 39118	74LVC14APW
7501	9322 199 16668	M74HC590T
7502	9322 201 05671	CY62256LL-70ZC
7503	9322 199 16668	M74HC590T
7504	3198 010 42310	BC847BW
7505	9351 870 00118	74HC573PW
7506	9351 870 00118	74HC573PW
7601	9322 183 05668	TS482ID
7602	9351 742 70118	74HC08PW
7603	3198 010 42310	BC847BW
7604	3198 010 42310	BC847BW
7605	9340 310 50215	PDTA143ET
7606	9340 425 20115	BC847BS
7708	9322 139 16668	LF33CPT
7710	9322 202 34668	L5973D
7730	9322 191 07668	IC SM L5970D
7735	4822 130 42804	BC817-25
7738	9322 163 24668	L78M08CDT
7741	3198 010 42310	BC847BW
7742	3198 010 42310	BC847BW
7752	5322 209 90529	MC34063AD
7756	4822 130 11155	PDTC114ET
7758	9322 212 14668	SI4423DY
7801	9322 219 57671	GM1501H-LF-BD
7900	9322 142 88668	LF25CDT
7901	9322 189 19668	LD1086D2T18

7A00	9352 759 98118	PCA9515ADP
7A02	3198 010 42310	BC847BW
7A03	3198 010 42310	BC847BW
7B01	9322 214 42671	K4D263238F-QC50
7C00		For SW see item 7051
7C01	9322 206 23668	M24C32-WMN6P
7C02	9322 215 39685	PST596JN
7E00	9322 195 23668	ADG733BRU
7E01	9322 199 80668	SM5301BS-G
7E02	9322 199 56668	ADG781BCP
7E03	4822 209 60792	74HC4053D
7E04	9352 607 39118	74LVC14APW
7E05	9352 607 39118	74LVC14APW
7F03		For SW see item 7055
7G03	3198 010 42310	BC847BW
7G05	3198 010 42310	BC847BW
7G10	4822 209 60792	74HC4053D
7L01	3198 010 42310	BC847BW
7L02	3198 010 42310	BC847BW
7L03	3198 010 42310	BC847BW
7L04	9322 212 77672	MST9883C-LF-110
7L05	4822 209 17398	LD1117DT33
7L06	9965 000 04199	BSN20
7L07	9965 000 04199	BSN20
7M00	9322 204 76671	T6TU5XBG-0001
7M01	9322 206 19672	MSM56V16160F-7T3-FG
7N01		For SW see item 7052
7N02	9322 217 35671	EP1C12F256C8N
7N03	9340 425 20115	BC847BS
7N04	9322 210 59668	THC63LVDF84B
7P01	9322 170 14668	LF15ABDT
7P02	9322 201 03668	THC63LVDM83R

PDP Audio [C]

Various

1735	4822 267 10918	Connector 3p
1736	2422 025 10768	Connector 3p m
1M02	4822 267 10618	Connector 7p
1M06	2422 025 11244	Connector 7p m
1M52	2422 025 10769	Connector 9p m

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2700	4822 126 14247	1.5nF 50V 0603
2701	4822 126 14249	560pF 10% 50V 0603
2703	2020 552 96683	220nF 10% 50V
2704	4822 124 11767	470µF 20% 25V
2705	4822 126 14249	560pF 10% 50V 0603
2706	5322 126 11579	3.3nF 10% 63V
2707	2222 580 15649	100nF 10% 50V 0805
2709	2020 552 96683	220nF 10% 50V
2710	2020 552 96683	220nF 10% 50V
2711	2022 552 05679	1µF 10% 16V 0805
2712	4822 126 14583	470nF 10% 16V 0805
2713	4822 126 13193	4.7nF 10% 63V
2715	4822 121 51252	470nF 5% 63V
2716	3198 017 31530	15nF 20% 50V 0603
2717	2022 552 05679	1µF 10% 16V 0805
2718	2222 580 15649	100nF 10% 50V 0805
2719	4822 126 14583	470nF 10% 16V 0805
2720	2020 021 91431	22µF 20% 100V
2721	2222 580 15649	100nF 10% 50V 0805
2722	4822 126 14583	470nF 10% 16V 0805
2723	2022 552 05679	1µF 10% 16V 0805
2726	4822 126 13193	4.7nF 10% 63V
2727	4822 126 14249	560pF 10% 50V 0603
2731	4822 126 14249	560pF 10% 50V 0603
2732	4822 126 14583	470nF 10% 16V 0805
2736	4822 121 51252	470nF 5% 63V
2737	3198 017 31530	15nF 20% 50V 0603
2739	2222 580 15649	100nF 10% 50V 0805
2741	4822 126 13883	220pF 5% 50V
2743	3198 016 31020	1nF 25V 0603
2744	2222 580 15649	100nF 10% 50V 0805
2745	2020 552 96683	220nF 10% 50V
2746	4822 124 11767	470µF 20% 25V
2747	2022 552 05679	1µF 10% 16V 0805
2748	4822 126 14247	1.5nF 50V 0603
2749	5322 126 11579	3.3nF 10% 63V
2751	4822 124 40433	47µF 20% 25V
2754	2020 021 91431	22µF 20% 100V
2770	3198 017 41050	1µF 10V 0603
2776	2020 021 91431	22µF 20% 100V
2780	4822 126 14583	470nF 10% 16V 0805
2789	4822 126 14583	470nF 10% 16V 0805
2791	4822 126 13879	220nF +80-20% 16V

-WW-

3700	4822 051 30561	560Ω 5% 0.062W
3701	4822 051 30479	47Ω 5% 0.062W
3702	3198 021 38220	8.2kΩ 5% 0.062W 0603
3703	3198 021 38220	8.2kΩ 5% 0.062W 0603
3704	4822 117 13632	100kΩ 1% 0603 0.62W
3705	4822 051 30222	2.2kΩ 5% 0.062W
3706	4822 051 30682	6.8Ω 5% 0.062W
3707	4822 051 30393	39kΩ 5% 0.062W
3708	4822 051 30479	47Ω 5% 0.062W
3709	4822 051 30272	2.7kΩ 5% 0.062W
3710	4822 051 30393	39kΩ 5% 0.062W
3711	2322 762 60568	5.6Ω 5% 5% 2512
3712	4822 051 30272	2.7kΩ 5% 0.062W
3713	4822 051 30332	3.3Ω 5% 0.062W
3714	4822 051 30682	6.8Ω 5% 0.062W
3715	2322 762 60568	5.6Ω 5% 5% 2512
3716	4822 117 13632	100kΩ 1% 0603 0.62W
3717	4822 051 30222	2.2kΩ 5% 0.062W
3718	4822 051 30561	560Ω 5% 0.062W
3719	4822 051 30124	120kΩ 5% 0.062W
3720	4822 051 30479	47Ω 5% 0.062W
3721	4822 051 30471	47Ω 5% 0.062W
3722	4822 051 30124	120kΩ 5% 0.062W
3723	4822 051 30471	47Ω 5% 0.062W
3724	4822 051 30102	1kΩ 5% 0.062W
3725	4822 117 12925	47kΩ 1% 0.063W 0603
3726	4822 051 30153	15kΩ 5% 0.062W
3727	4822 051 30103	10kΩ 5% 0.062W
3728	4822 051 30153	15kΩ 5% 0.062W
3729	4822 117 12925	47kΩ 1% 0.063W 0603
3730	4822 051 30223	22kΩ 5% 0.062W
3731	4822 051 30102	1kΩ 5% 0.062W
3732	4822 051 30223	22kΩ 5% 0.062W
3733	4822 051 30562	5.6kΩ 5% 0.063W 0603
3734	4822 051 30223	22kΩ 5% 0.062W
3735	4822 117 12889	270kΩ 1% 0.063W 0603
3736	4822 117 12925	47kΩ 1% 0.063W 0603
3737	4822 117 12925	47kΩ 1% 0.063W 0603
3738	4822 117 13632	100kΩ 1% 0603 0.62W
3760	4822 051 30223	22kΩ 5% 0.062W
3764	4822 117 13632	100kΩ 1% 0603 0.62W
3765	4822 117 13632	100kΩ 1% 0603 0.62W
3777	4822 051 30102	1kΩ 5% 0.062W
3778	4822 051 30479	47Ω 5% 0.062W
3999	4822 051 30472	4.7Ω 5% 0.062W
9710	4822 051 20008	Jumper 0805
9711	4822 051 20008	Jumper 0805
9712	4822 051 20008	Jumper 0805
9713	4822 051 20008	Jumper 0805
9748	4822 051 20008	Jumper 0805
9757	4822 051 20008	Jumper 0805
9758	4822 051 20008	Jumper 0805
9759	4822 051 20008	Jumper 0805
9760	4822 051 20008	Jumper 0805
9761	4822 051 20008	Jumper 0805
9762	4822 051 20008	Jumper 0805
9763	4822 051 20008	Jumper 0805
9764	4822 051 20008	Jumper 0805
9765	4822 051 20008	Jumper 0805
9766	4822 051 20008	Jumper 0805
9768	4822 051 20008	Jumper 0805
9770	4822 051 20008	Jumper 0805
9790	4822 051 20008	Jumper 0805
9795	4822 051 20008	Jumper 0805
9796	4822 051 20008	Jumper 0805
9806	4822 051 20008	Jumper 0805
9807	4822 051 20008	Jumper 0805
9808	4822 051 20008	Jumper 0805

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5700	2422 536 00942	33µH 20%
5701	4822 157 11716	Bead 30Ω at 100MHz
5702	2422 536 00942	33µH 20%
5705	4822 157 11411	Bead 80Ω at 100MHz
5708	4822 157 11411	Bead 80Ω at 100MHz

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6700	4822 130 11522	UDZ15B
6702	9322 150 18685	BZX384-C47
6703	4822 130 10838	UDZ3.3B

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7700	9322 202 89668	LM393P
7701	9352 729 65112	TDA8925ST/N1
7702	3198 010 42310	BC847BW
7705	3198 010 42310	BC847BW
7706	3198 010 42310	BC847BW
7707	3198 010 42310	BC847BW
7708	3198 010 42320	BC857BW
7709	3198 010 42310	BC847BW
7710	3198 010 42310	BC847BW
7711	3198 010 42320	BC857BW
7712	3198 010 42310	BC847BW
7713	3198 010 42310	BC847BW

LED Panel [J]

Various

0345	2422 025 18741	Connector 6p m
1040	9322 206 81667	TSOP34836YA1

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2040	4822 124 12095	100µF 20% 16V

-WW-

3040	4822 117 13597	330Ω 5% 0402 0.01W
3051	4822 051 30221	220Ω 5% 0.062W
3061	4822 051 30221	220Ω 5% 0.062W
3063	4822 117 13606	10kΩ 5% 0.01W 0402
3078	3198 031 02250	2.2MΩ 5% 0.1W 0402
9012	4822 117 13605	Jumper 0402
9041	4822 117 13605	Jumper 0402
9042	4822 117 13605	Jumper 0402
9062	4822 117 13605	Jumper 0402
9066	4822 117 13606	10kΩ 5% 0.01W 0402
9070	4822 117 13605	Jumper 0402
9081	4822 117 13605	Jumper 0402
9082	4822 117 13605	Jumper 0402
9111	4822 117 13605	Jumper 0402
9112	4822 117 13605	Jumper 0402
9115	4822 117 13605	Jumper 0402
9122	4822 117 13605	Jumper 0402

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6051	9322 218 97685	SML-310VTK
6060	9322 134 46685	SML-310MT
6070	9322 140 63685	TEMD5000

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7051	3198 010 42310	BC847BW
7052	3198 010 42310	BC847BW
7062	4822 130 60373	BC856B

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11. Revision List

Manual xxxx xxx xxxx.0

- First release.

Manual xxxx xxx xxxx.1

- Diversity tables in chapter 7 added.

Manual xxxx xxx xxxx.2

- Corrected several errors in the text.

Manual xxxx xxx xxxx.3

- Chapter 7: PSU schematics and PWB's [A] added.

- Chapter 10: PSU parts list [A] added and software items updated.